



CMS Bundled Payments for Care Improvement Advanced Model: Fourth Evaluation Report – Appendices

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**The Lewin Group, Inc. with our partners Abt
Associates, GDIT, and Telligen**

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Appendix A: Glossary of Terms and Acronyms List

Exhibit A.1: Glossary of Terms

Name	Definition
90-day Post-Discharge Period (PDP)	The 90 days following discharge from the anchor stay or procedure.
Advanced Alternative Payment Model (APM)	<p>A component of the Quality Payment Program (QPP) in which eligible clinicians may be excluded from Merit-based Incentive Payment System (MIPS) reporting requirements and payment adjustments, and receive a 5% bonus incentive for achieving threshold levels of patient volumes or payment amounts. To be an Advanced APM, the model must meet these three criteria:</p> <ul style="list-style-type: none"> • Requires participants to use certified electronic health records (EHR) technology • Provides payment for covered professional services based on quality measures comparable to those used in the MIPS Quality performance category • Either (1) is a Medical Home Model expanded under the Centers for Medicare & Medicaid Services (CMS) Innovation Center authority OR (2) requires participants to bear a significant financial risk
Anchor Procedure	The hospital outpatient procedure that triggers the start of an outpatient episode.
Anchor Stay	The hospital inpatient stay that triggers the start of an inpatient episode.
Applicant	An organization that completed and submitted a BPCI Advanced application to CMS.
BPCI Advanced Counterfactual	Represents what payments would have been absent the BPCI Advanced model. Calculated as the average BPCI Advanced baseline amount plus the average change for the comparison group from baseline to intervention. Used as the denominator to present results for net savings to Medicare as a percentage.
BPCI Advanced Database	A database where CMS stores secure, frequently updated data about BPCI Advanced participants and episodes, from which the evaluation team can process various reports at any time.
Clinical Episode	For Model Years 1 and 2, one of the 32 clinical episodes and for Model Year 3, one of the 34 clinical episodes identified by a specific Healthcare Common Procedure Coding System (HCPCS) code or Medicare Severity Diagnosis Related Group (MS-DRG) that begins with an anchor stay or anchor procedure and extends for 90 days post-discharge or procedure.
Clinical Episode Service Line Group (CESLG)	In Model Year 4, the clinical episodes will be grouped into eight clinically related groups. Participants will be required to select CESLGs instead of one or more clinical episodes. Participants will not be required to participate in clinical episodes within a CESLG that do not meet the minimum volume threshold during the baseline period.
Composite Quality Score (CQS)	An aggregate quality score determined by calculating a score for each quality measure at the clinical episode level. Scores are scaled across the clinical episodes attributed to a specific episode initiator and weighted based on clinical episode volume. The CQS is used to adjust positive or negative total reconciliation amounts.
Convener Participant	A type of participant that brings together at least one downstream episode initiator to participate in BPCI Advanced, facilitate coordination among them, and bear and apportion financial risk. A convener participant may or may not be a Medicare provider or initiate episodes.
Downstream Episode Initiator	Hospitals or physician group practices (PGPs) that are associated with a convener participant and initiate episodes. Downstream episode initiators do not bear financial risk directly with CMS.
Episode Initiator	The hospital or PGP participating in the model as a participant or a downstream episode initiator that can trigger episodes.
Episode	The anchor stay or procedure plus the 90-day post-discharge or post-procedure period.

Name	Definition
Financial Arrangements	An arrangement entered between the participant and Net Payment Reconciliation Amount (NPRA) sharing partner or between a PGP NPRA sharing partner and a NPRA sharing group practice practitioner for purposes of sharing NPRA with organizations or individuals, or for the contribution of shared repayment amounts or internal cost savings.
First Cohort	Participants and episode initiators that began participation in the model on October 1, 2018 and remained in the model past the retroactive withdrawal period.
Impact Analysis Baseline Period	The period of time prior to the BPCI Advanced intervention period used in the impact analyses. The baseline period spans nearly five years from April 1, 2013 to December 31, 2017.
Net Payment Reconciliation Amount (NPRA)	The amount paid to a participant when aggregate Medicare allowed amounts for clinical episodes which the participant has selected, including an adjustment from the CQS, are lower than the target price for such clinical episodes.
Non-convener Participant	An individual hospital or PGP that assumes financial risk for clinical episodes. Non-convener participants are also episode initiators.
NPRA Sharing Arrangement	An arrangement between a participant and a NPRA sharing partner that outlines, in writing, the terms of sharing NPRA, the contribution of internal cost savings to the BPCI Advanced savings pool, and the apportionment to the NPRA sharing partner of any repayment amount owed by the participant.
Performance Period	A defined period during which episodes may initiate and all Medicare fee-for-service (FFS) payments aggregated for a specific episode are attributed to a participant. The performance periods are used to determine reconciliation for episodes. Apart from the first performance period, performance periods will run from January 1 through June 30 and July 1 through December 31. The BPCI Advanced Model includes 10 performance periods, running through December 31, 2023.
Post-acute Care (PAC)	All care services received by the beneficiary after discharge from the qualifying hospital stay or procedure. Includes care from the PAC provider (skilled nursing facility [SNF], inpatient rehabilitation facility [IRF], long-term care hospital [LTCH], or home health agency [HHA]), as well as any potential inpatient hospitalizations (readmissions), professional services, or outpatient care.
Reconciliation	The semi-annual process where CMS compares the aggregate Medicare FFS allowed amounts for all items and services included in episodes attributed to a participant against the target price for those episodes to determine whether the participant is eligible to receive a NPRA payment from CMS or is required to pay a repayment amount to CMS.
Repayment Amount	The amount participants must pay CMS when aggregate Medicare allowed amounts for clinical episodes which the participant has selected, including an adjustment from the CQS, are higher than the target price for such clinical episodes.
Retroactive Withdrawal	A one-time opportunity for participants to withdraw some or all of their episode initiators or clinical episodes without being held financially accountable for episodes initiated between October 1, 2018 and March 1, 2019.
Risk Adjustment	Risk adjustment controls for observable beneficiary indicators that may also impact the outcome of interest. Without adequate risk adjustment, providers with a sicker or more service intensive patient mix would likely have worse outcomes and providers with healthier patients would likely have better outcomes even if nothing else differed. All measures were risk adjusted for demographic factors, prior health conditions based on Hierarchical Chronic Conditions (HCC) indicators, measures of prior care use, and provider characteristics.
Second Cohort	Participants and episode initiators that began participation in the model on January 1, 2020.
Target Price	The benchmark price with the CMS discount applied for each combination of episode initiator and clinical episode.

Name	Definition
Target Price Baseline Period	The period of time referenced for calculation of historical payments used for target prices. For Model Years 1 and 2, the baseline period spans 4 years from January 1, 2013 through December 31, 2016. For Model Year 3, the baseline period spans 4 years from October 1, 2014 through September 30, 2018.

Exhibit A.2: Acronym List

Acronym	Definition
ACO	Accountable Care Organization
AMI	Acute Myocardial Infarction
APM	Alternative Payment Model
BPCI	Bundled Payments for Care Improvement
CABG	Coronary Artery Bypass Graft
CESLG	Clinical Episode Service Line Group
CHF	Congestive Heart Failure
CMMI	Center for Medicare & Medicaid Innovation
CMS	Centers for Medicare & Medicaid Services
COPD	Chronic Obstructive Pulmonary Disease
COVID-19 PHE	Coronavirus Disease 2019 Public Health Emergency
CQS	Composite Quality Score
DiD	Difference-in-differences
DJRLE	Double Joint Replacement of the Lower Extremity
ESRD	End-stage Renal Disease
FFS	Fee-for-service
GI	Gastrointestinal
HCC	Hierarchical Condition Category
HCPCS	Healthcare Common Procedure Coding System
HH	Home Health
IP	Inpatient
IRF	Inpatient Rehabilitation Facility
LOS	Length of Stay
MJRLE	Major Joint Replacement of the Lower Extremity
MJRUE	Major Joint Replacement of the Upper Extremity
MS-DRG	Medicare Severity Diagnosis Related Group
MY	Model Year
NPRA	Net Payment Reconciliation Amount
OP	Outpatient
PAC	Post-acute Care
PCI	Percutaneous Coronary Intervention
PECOS	Provider Enrollment, Chain, and Ownership System
PGP	Physician Group Practice
POS	Provider of Service

Acronym	Definition
PP	Percentage Point
SNF	Skilled Nursing Facility
SPRI	Simple Pneumonia and Respiratory Infections
UTI	Urinary Tract Infection

Appendix B: BPCI Advanced Clinical Episode and Clinical Episode Service Line Group Definitions

Exhibit B.1: BPCI Advanced Clinical Episode Types

Clinical Episode Type	Clinical Episode
Medical	<ul style="list-style-type: none"> • Acute Myocardial Infarction • Cardiac Arrhythmia • Cellulitis • Chronic Obstructive Pulmonary Disease, Bronchitis, Asthma • Congestive Heart Failure • Disorders of Liver Except Malignancy, Cirrhosis or Alcoholic Hepatitis • Gastrointestinal Hemorrhage • Gastrointestinal Obstruction • Inflammatory Bowel Disease* • Renal Failure • Seizures* • Sepsis • Simple Pneumonia and Respiratory Infections • Stroke • Urinary Tract Infection
Surgical	<ul style="list-style-type: none"> • Back and Neck Except Spinal Fusion (Inpatient) • Back and Neck Except Spinal Fusion (Outpatient) • Bariatric Surgery* • Cardiac Defibrillator (Inpatient) • Cardiac Defibrillator (Outpatient) • Cardiac Valve • Coronary Artery Bypass Graft • Double Joint Replacement of the Lower Extremity • Endovascular Cardiac Valve Replacement* • Fractures of the Femur and Hip or Pelvis • Hip and Femur Procedures Except Major Joint • Lower Extremity and Humerus Procedures Except Hip, Foot, Femur • Major Bowel Procedure • Major Joint Replacement of the Lower Extremity** • Major Joint Replacement of the Upper Extremity • Pacemaker • Percutaneous Coronary Intervention (Inpatient) • Percutaneous Coronary Intervention (Outpatient) • Spinal Fusion* <ul style="list-style-type: none"> ○ Cervical Spinal Fusion ○ Combined Anterior Posterior Spinal Fusion ○ Spinal Fusion (Non-Cervical)

* *Bariatric surgery, endovascular cardiac valve replacement, inflammatory bowel disease, seizures, and spinal fusion* clinical episodes were new for Model Year 3. The *spinal fusion* clinical episode combines and replaces three clinical episodes: *cervical spinal fusion, combined anterior posterior spinal fusion, and spinal fusion (non-cervical)*, which were separate clinical episodes in Model Years 1 and 2.

** Beginning in Model Year 3, *major joint replacement of the lower extremity* is a multi-setting clinical episode that can be triggered with either an inpatient or outpatient procedure.

Exhibit B.2: BPCI Advanced Inpatient Clinical Episodes and Medicare Severity Diagnosis Related Groups (MS-DRGs), Model Year 4

Clinical Episode	MS-DRGs Trigger Codes							
	1	2	3	4	5	6	7	8
Acute Myocardial Infarction	280	281	282					
Back and Neck Except Spinal Fusion	518	519	520					
Bariatric Surgery*	619	620	621					
Cardiac Arrhythmia	308	309	310					
Cardiac Defibrillator	222	223	224	225	226	227		
Cardiac Valve	216	217	218	219	220	221		
Cellulitis	602	603						
Chronic Obstructive Pulmonary Disease, Bronchitis, Asthma	190	191	192	202	203			
Congestive Heart Failure	291	292	293					
Coronary Artery Bypass Graft	231	232	233	234	235	236		
Disorders of Liver Except Malignancy, Cirrhosis or Alcoholic Hepatitis	441	442	443					
Double Joint Replacement of the Lower Extremity	461	462						
Endovascular Cardiac Valve Replacement*	266	267						
Fractures of the Femur and Hip or Pelvis	533	534	535	536				
Gastrointestinal Hemorrhage	377	378	379					
Gastrointestinal Obstruction	388	389	390					
Hip and Femur Procedures Except Major Joint	480	481	482					
Inflammatory Bowel Disease*	385	386	387					
Lower Extremity and Humerus Procedure Except Hip, Foot, Femur	492	493	494					
Major Bowel Procedure	329	330	331					
Major Joint Replacement of the Lower Extremity**	469	470	521	522				
Major Joint Replacement of the Upper Extremity	483							
Pacemaker	242	243	244					
Percutaneous Coronary Intervention	246	247	248	249	250	251		
Renal Failure	682	683	684					
Seizures*	100	101						
Sepsis	870	871	872					
Simple Pneumonia and Respiratory Infections	177	178	179	193	194	195		
Spinal Fusion*	453	454	455	459	460	471	472	473
Stroke	061	062	063	064	065	066		
Urinary Tract Infection	689	690						

* *Bariatric surgery, endovascular cardiac valve replacement, inflammatory bowel disease, seizures, and spinal fusion* clinical episodes were new for Model Year 3. The *spinal fusion* clinical episode combines and replaces three clinical episodes: *cervical spinal fusion, combined anterior posterior spinal fusion, and spinal fusion (non-cervical)*, which were separate clinical episodes in Model Years 1 and 2. Additionally, *endovascular cardiac valve replacement* episodes are triggered by the corresponding MS-DRG codes and at least one procedure code from Exhibit B.4.

** Beginning in Model Year 3, *major joint replacement of the lower extremity* is a multi-setting clinical episodes that can be triggered with either an inpatient or outpatient procedure. MS-DRGs 521 and 522 became active October 1, 2020. For a list of trigger Healthcare Common Procedure Coding System (HCPCS) Codes, see Exhibit B.3.

Source: Centers for Medicare & Medicaid Services (2020, October). BPCI Advanced. Retrieved from <https://innovation.cms.gov/media/document/bpci-advanced-clinical-episodes-quality-measures-correlation-table-my4>.

Exhibit B.3: BPCI Advanced Outpatient Clinical Episodes and Healthcare Common Procedure Coding System (HCPCS) Codes, Model Year 4

Clinical Episode	HCPCS Trigger Codes												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Back and Neck Except Spinal Fusion	62287	63005	63011	63012	63017	63030	63040	63042	63045	63046	63047	63056	63075
Cardiac Defibrillator	33249	33262	33263	33264	33270								
Percutaneous Coronary Intervention	92920	92924	92928	92933	92937	92943	C9600	C9602	C9604	C9607			
Major Joint Replacement of the Lower Extremity**	27447												

** Beginning in Model Year 3, *major joint replacement of the lower extremity* is a multi-setting episode that can be triggered with either an inpatient or outpatient procedure. For a list of trigger Medicare Severity Diagnosis Related Groups (MS-DRGs), see Exhibit B.2.

Source: Centers for Medicare & Medicaid Services (2020, October). BPCI Advanced. Retrieved from <https://innovation.cms.gov/media/document/bpci-advanced-clinical-episodes-quality-measures-correlation-table-my4>.

Exhibit B.4: Procedure Codes for Endovascular Cardiac Valve Replacement, Model Year 4

Procedure Code	ICD-9/ICD-10
3505	ICD-9
3506	ICD-9
02RF37H	ICD-10
02RF37Z	ICD-10
02RF38H	ICD-10
02RF38Z	ICD-10
02RF3JH	ICD-10
02RF3JZ	ICD-10
02RF3KH	ICD-10
02RF3KZ	ICD-10
X2RF332	ICD-10

Note: Endovascular cardiac valve replacement episodes are identified by Medicare Severity Diagnosis Related Groups (MS-DRG) (see Exhibit B.2) and at least one of these procedure codes.

Source: Centers for Medicare and Medicaid Services (2020, October). BPCI Advanced. Retrieved from <https://innovation.cms.gov/media/document/bpci-advanced-clinical-episodes-quality-measures-correlation-table-my4>.

Exhibit B.5: BPCI Advanced Clinical Episode Service Line Groups, Model Year 4

Clinical Episode Service Line Group	Clinical Episodes
Cardiac Care	<ul style="list-style-type: none"> • Acute Myocardial Infarction • Cardiac Arrhythmia • Congestive Heart Failure
Cardiac Procedures	<ul style="list-style-type: none"> • Cardiac Defibrillator (Inpatient) • Cardiac Defibrillator (Outpatient) • Cardiac Valve • Coronary Artery Bypass Graft • Endovascular Cardiac Valve Replacement • Pacemaker • Percutaneous Coronary Intervention (Inpatient) • Percutaneous Coronary Intervention (Outpatient)
Gastrointestinal Care	<ul style="list-style-type: none"> • Disorders of Liver Except Malignancy, Cirrhosis, or Alcoholic Hepatitis • Gastrointestinal Hemorrhage • Gastrointestinal Obstruction • Inflammatory Bowel Disease
Gastrointestinal Surgery	<ul style="list-style-type: none"> • Bariatric Surgery • Major Bowel Procedure
Medical & Critical Care	<ul style="list-style-type: none"> • Cellulitis • Chronic Obstructive Pulmonary Disease, Bronchitis, Asthma • Renal Failure • Sepsis • Simple Pneumonia and Respiratory Infections • Urinary Tract Infection
Neurological Care	<ul style="list-style-type: none"> • Seizures • Stroke
Orthopedics	<ul style="list-style-type: none"> • Double Joint Replacement of the Lower Extremity • Fractures of the Femur and Hip or Pelvis • Hip and Femur Procedures Except Major Joint • Lower Extremity and Humerus Procedure Except Hip, Foot, Femur • Major Joint Replacement of the Lower Extremity (Multi-setting) • Major Joint Replacement of the Upper Extremity
Spinal Procedures	<ul style="list-style-type: none"> • Back and Neck Except Spinal Fusion (Inpatient) • Back and Neck Except Spinal Fusion (Outpatient) • Spinal Fusion

Source: Centers for Medicare & Medicaid Services (2020, October). BPCI Advanced. Retrieved from <https://innovation.cms.gov/media/document/bpci-advanced-clinical-episodes-quality-measures-correlation-table-my4>.

Appendix C: Methods

This appendix includes the details on the data and methods used for the analyses included in the Fourth Evaluation Report.

A. Data Sources

Exhibit C.1 lists the data sources and their uses for this evaluation report. We used provider-level data sources to identify and describe Bundled Payments for Care Improvement Advanced (BPCI Advanced) participating providers and to select comparison providers. We used Medicare claims and enrollment data to construct episodes of care for BPCI Advanced patients and for matched comparison providers. We also used claims to create outcome measures and beneficiary risk factors associated with the outcomes.

Exhibit C.1: Data Sources Used in the BPCI Advanced Evaluation

	Dataset Name	Date Range	Dataset Contents	Use
Primary Data Sources	Beneficiary Survey	July and August 2021	Surveys completed by Medicare beneficiaries or their proxies. Beneficiaries received surveys approximately 90 days after leaving the hospital.	Used to create patient-reported outcome measures such as patient-reported change in functional status, care experiences, and satisfaction with recovery and care received.
	Academic Medical Center Indicator Dataset	2013-2017	Dataset from the BPCI Advanced payment reconciliation contract that indicated if the Inpatient Prospective Payment System (IPPS) hospital is an academic medical center.	Used to identify which hospitals are academic medical centers.
Provider-level Secondary Data Sources	Agency for Healthcare Research and Quality (AHRQ) Compendium of U.S. Health Systems, Hospital Linkage File	2016	Data linking hospitals to health systems.	Used to identify whether a hospital is part of a health system.
	AHRQ Compendium of U.S. Health Systems, Group Practice Linkage File	2018	Data linking physician group practices (PGPs) to health systems.	Used to identify whether a PGP is part of a health system.
	Area Health Resource File (AHRF)	2013-2017	County-level data on population, environment, geography, health care facilities, and health care professionals.	Used to create baseline hospital and PGP characteristics used in the construction of hospital comparison groups and PGP comparison groups.
	Centers for Medicare and Medicaid Services (CMS) BPCI Advanced Database	2018-2021	Information compiled by CMS on BPCI Advanced participants and their clinical episodes, including participant name, CMS Certification Number (CCN), Taxpayer Identification Number (TIN), location, type (hospital, PGP, other), BPCI Advanced “role,” clinical episode(s), BPCI Advanced participation start and end dates, and contact information.	Used to identify participants, hospital episode initiators, and PGP episode initiators participating in BPCI Advanced and the clinical episodes in which they are participating. Also used to identify participants that retroactively withdrew or applied but did not become a participant or an episode initiator.

	Dataset Name	Date Range	Dataset Contents	Use
Provider-level Secondary Data Sources, Continued	CMS BPCI Advanced Hospital Target Pricing Files	2013-2018	The clinical-episode-specific Model Years 1, 2, and 3 preliminary target prices, historical payments, and historical volume for all BPCI Advanced-eligible hospitals.	Used for the hospital efficiency measure, a component of the Model Year 3 preliminary target price, as a matching variable in Model Year 3 hospital comparison group construction. Also used as an indicator of whether historical hospital volume meets the threshold for target price creation to determine which hospitals were eligible to participate in Model Years 1, 2 and 3.
	CMS BPCI Advanced Reconciliation Result Files	2018-2021	Net payment reconciliation amounts (NPRA) and final target prices from the implementation contractor. Contains results for Model Years 1, 2, and 3 Performance Period 1, 2, 3, and 4 True-up 2 and Performance Period 5 True-up 1.	Used NPRA to calculate net Medicare savings due to BPCI Advanced and for analysis of representation of beneficiaries that have been historically underserved.
	CMS BPCI Database	2013-2018	Information compiled by CMS on BPCI awardees and their clinical episodes, including awardee name, CCN, TIN, location, type, clinical episode(s), BPCI participation start and end dates, and contact information.	Used to identify hospitals and PGPs that participated in the BPCI Initiative.
	CMS Comprehensive Care for Joint Replacement (CJR) Database	2017, 2018	List of providers that have ever participated in CJR as of 12/1/2017 and list of participants in CJR as of 10/1/2018.	Used to identify hospitals that participated in the CJR Model and to identify PGP episodes at CJR hospitals.
	CMS IPPS Files	2013-2017	Hospital-level file containing provider characteristics such as Medicare days percent, resident-bed ratio, and Disproportionate Share Hospital (DSH) patient percent.	Used in hospital comparison group construction.
	CMS Provider of Services (POS) File	2013- 2020	Information on Medicare-approved institutional providers, including provider number, size, ownership, location, and staffing.	Used in hospital comparison group construction, risk-adjustment, and for provider locations to assign county-level COVID-19 statistics.
	Dartmouth Atlas Project Crosswalk Files	2015	Crosswalk files from the ZIP code level to the Hospital Service Area (HSA) and the Hospital Referral Region (HRR).	Used to assign a core-based statistical area (CBSA) code to hospitals that are not located within a CBSA code by using the largest CBSA that overlaps the HRR.

	Dataset Name	Date Range	Dataset Contents	Use
Provider-level Secondary Data Sources, Continued	Master Data Management (MDM)	2013-2020	Provider-level information on participation in Center for Medicare and Medicaid Innovation (CMMI) payment demonstration programs.	Used to identify providers who were involved in a Medicare Shared Savings Program (MSSP), Next Generation (Next Gen), or Pioneer Accountable Care Organization (ACO) Model as well as the Comprehensive End Stage Renal Disease (ESRD) Care Model and Vermont ACO Model.
	Medicare Data on Provider Practice and Specialty (MD-PPAS)	2017-2019	Mapping of physicians (NPI) billing to practices (TINs).	Used to identify physician practice affiliation during the baseline period.
Transaction-level Secondary Data Sources	The Master Beneficiary Summary File (MBSF)	2013-2021	Beneficiary and enrollment information, including beneficiary unique identifier, address, date of birth/ death, sex, race and ethnicity, age, and Medicare enrollment status.	Used to identify eligibility for episodes of care, beneficiary demographic characteristics, and beneficiary eligibility for inclusion in the denominator for each of the outcome measures.
	Medicare Fee-for-services (FFS) Claims	Jan 2013- Mar 2021	Medicare Part A and B claims.	Used to create all claims-based outcome measures, claims-based matching measures, and prior use risk adjusting covariates. We calculate the number of discharges and procedures by BPCI Advanced, BPCI and non-participating hospitals, BPCI Advanced and BPCI PGPs, and by CBSAs. Also used to identify clinicians, clinician specialties, and hospitals where PGPs had discharges or procedures associated with BPCI Advanced and BPCI PGP episode initiators. Claims also used to identify confirmed cases of COVID-19.
	Medicare Standardized Payments	2013-2021	Medicare standardized payments for 100% Part A and B claims received via the Integrated Data Repository (IDR) from the implementation contractor.	Used to create Medicare standardized payment amounts (Part A and B) and allowed standardized payment outcomes.
County-level Secondary Data Sources	USA Facts Confirmed COVID-19 Cases and Deaths	January 2020- October 2021	Daily cumulative counts of confirmed COVID-19 cases and deaths by county.	Used to create measures of COVID-19 incidence and fatalities by county at the anchor start date and 29 days after the anchor end date.
	USA Facts County Populations	2020	Populations by county.	Used to create measures of COVID-19 incidence and fatalities by county at the anchor start date and 29 days after the anchor end date.

B. Quantitative Analysis

1. Impact of BPCI Advanced on Claim-based Outcomes

The evaluation of the model relies on a non-experimental design, which uses a comparison group of non-BPCI Advanced hospitals or physician group practices (PGPs) to infer counterfactual outcomes for hospitals or PGPs participating in BPCI Advanced. In this section, we define the outcomes, study population, methodology for creating comparison groups, methodology for related descriptive analyses, and methodology used to estimate the impact of BPCI Advanced on payments, utilization, and quality.

a. Outcomes

We used data from claims to create payment, utilization of health care services, and quality outcomes, as well as characteristics of the patient mix. The following exhibits define these outcomes and characteristics. Exhibit C.2 provides definitions of each patient characteristic variable used in the patient mix and beneficiary race and ethnicity analyses. Exhibit C.3 provides detailed information about each outcome measure used in our impact analyses and analyses of populations that have been historically underserved.

Exhibit C.2: Definition of Characteristics, Patient Mix and Beneficiary Race and Ethnicity

Variable ^a	Definition
Age 80+ Years	Percent of episodes where the patient was 80 years or older as reported in the Master Beneficiary Summary File.
Beneficiary Race and Ethnicity	Percent of episodes where the beneficiary’s race and ethnicity were one of the following categories: Asian/Pacific Islander, Black or African American, Hispanic, American Indian/Alaska Native, Other, Non-Hispanic White. Data come from the RTI race codes from the Master Beneficiary Summary File. ^b
Male	Percent of episodes where the patient sex was male as reported in the Master Beneficiary Summary File.
Count of HCC Indicators	Average number of HCC comorbidity indicators per patient from diagnostic history during the 6 months prior to the episode start date.
Disabled, No ESRD	Percent of episodes where the patient was disabled but did not have ESRD as reported in the Master Beneficiary Summary File.
HCC Score	The HCC score (or index) was constructed using beneficiary demographics and diagnostic history. Each episode was assigned an HCC score based on the beneficiary’s diagnosis information during the 6 months prior to the episode start date, using v22 of CMS’s 2019 Risk Score software, and 2016 (ICD-9) and 2019 (ICD-10) diagnosis to chronic condition mappings. For example, the HCC score for an episode that started on July 1, 2019 was constructed using diagnoses from January 1, 2019–June 30, 2019 claims.
Medicaid Eligibility	Percent of episodes where the patient was dually eligible as reported in the Master Beneficiary Summary File.
Prior Home Health Use	Percent of episodes where the patient accessed home health services in the 180 days prior to the beginning of the episode.
Prior Institutional PAC Use	Percent of episodes where the patient accessed institutional PAC services in the 180 days prior to the beginning of the episode.

Note: ESRD = End-stage Renal Disease; HCC = hierarchical condition category; ICD = International Statistical Classification of Diseases; PAC = post-acute care setting; RTI = Research Triangle Institute.

^a For all variables, the eligible sample was restricted to beneficiaries who: 1) had a complete fee-for-service enrollment history six months prior to the anchor stay or procedure; and 2) had non-missing age and gender data.

^b The RTI race code is created based on beneficiaries’ self-reporting to Medicare and the Social Security Administration, and RTI’s race imputation algorithm based on beneficiaries’ names and geography.

Exhibit C.3: Claims-based Outcome Definitions, Impact Analyses and Analyses of Beneficiaries from Populations that have been Historically Underserved

Domain	Outcome Name	Description	Technical Definition	Eligible Sample ^a
Payment	Total Medicare Part A & B Standardized Allowed Payment Amount	Average total Medicare Part A & B standardized allowed amount, during the anchor stay/outpatient procedure + 90-day PDP	The sum of Medicare payment and beneficiary out-of-pocket amounts for all health care services. Payments in the lower/upper ends are winsorized. ^b	Beneficiaries who: 1) maintained FFS Parts A and B enrollment throughout the measurement period; 2) had a measurement period that ended on or before March 29, 2021; 3) had non-zero anchor hospitalization payments and total Part A and Part B payments.
	Total Medicare Part A & B Standardized Paid Amount	Average total Part A & B amount paid by Medicare, during the anchor stay/ outpatient procedure + 90-day PDP	The sum of Medicare payments for all health care services, without beneficiary cost sharing. Payments in the lower/upper ends are winsorized. ^b	Same as Standardized Allowed Payment Amount.
	Medicare Part A SNF Standardized Allowed Amount	Average Medicare Part A standardized allowed amount, for SNF setting, totaled within the 90-day PDP	The sum of Medicare payment and beneficiary out-of-pocket amounts for Part A health care services provided for SNF during the 90-day PDP.	Same as Standardized Allowed Payment Amount.
	Medicare Part A IRF Standardized Allowed Amount	Average Medicare Part A standardized allowed amount, for IRF setting, totaled within the 90-day PDP	The sum of Medicare payment and beneficiary out-of-pocket amounts for Part A health care services provided for IRF during the 90-day PDP.	Same as Standardized Allowed Payment Amount.
	Medicare Part A HHA Standardized Allowed Amount	Average Medicare Part A standardized allowed amount, for HHA setting, totaled within the 90-day PDP	The sum of Medicare payment and beneficiary out-of-pocket amounts for Part A health care services provided for HHA during the 90-day PDP.	Same as Standardized Allowed Payment Amount.
	Medicare Part A Readmissions Standardized Allowed Amount	Average Medicare Part A standardized allowed amount, for readmissions, totaled within the 90-day PDP	The sum of Medicare payment and beneficiary out-of-pocket amounts for Part A health care services provided for readmissions during the 90-day PDP.	Same as Standardized Allowed Payment Amount.
	Medicare Part A Hospice Standardized Allowed Amount	Average Medicare Part A standardized allowed amount, for hospice setting, totaled within the 90-day PDP	The sum of Medicare payment and beneficiary out-of-pocket amounts for Part A health care services provided for hospice during the 90-day PDP.	Same as Standardized Allowed Payment Amount.

Domain	Outcome Name	Description	Technical Definition	Eligible Sample ^a
Utilization	Discharged to Institutional PAC Setting	The proportion of episodes discharged from the hospital to an institutional PAC setting	The proportion of episodes where the first PAC setting was SNF, LTCH, or IRF. Institutional PAC stays are only counted as a first PAC setting if the beneficiary was admitted to SNF, LTCH, or IRF within 5 days of discharge from the hospital.	Same as Standardized Allowed Payment Amount.
	Number of Days in a SNF	Number of SNF days of care during the 90-day PDP	The number of days of SNF care (not necessarily consecutive) during the 90-day PDP.	Beneficiaries who: 1) maintained FFS Parts A and B enrollment throughout the measurement period; 2) had a measurement period that ends on or before March 29, 2021; 3) had non-zero anchor hospitalization payments and total Part A and Part B payments; 4) had at least one SNF day during the 90-day PDP.
	Hospice Use	The proportion of episodes with hospice use within the 90-day PDP	Binary outcome (1= at least one day in hospice during measurement period; 0= no hospice use during measurement period).	Same as Standardized Allowed Payment Amount.
Quality	Unplanned Readmission Rate	Episodes with one or more unplanned, all-cause readmissions for any condition 90 days after the anchor stay or outpatient procedure	Binary outcome (1= at least one readmission during measurement period; 0= no eligible readmission during measurement period). Eligible readmissions are IPPS claims with an MS-DRG not on the list of excluded MS-DRGs for the given clinical episode. ^c	Beneficiaries who: 1) maintained FFS Parts A and B enrollment throughout the measurement period; 2) had a measurement period that ends on or before March 29, 2021; 3) were discharged from the anchor stay/outpatient procedure in accordance with medical advice.
	All-cause Mortality	Death from any cause during the anchor stay or procedure, or during the 90-day PDP	If date of death occurred during the measurement period, then mortality outcome equals one.	Beneficiaries who: 1) maintained FFS Parts A and B enrollment throughout the measurement period or until death; 2) had not received hospice care in the six months prior to admission; 3) had a measurement period that ends on or before March 29, 2021. ^d

Domain	Outcome Name	Description	Technical Definition	Eligible Sample ^a
Quality (cont'd)	All-cause Mortality during the 90-day PDP	Death from any cause during the 90-day PDP	If date of death occurred during the measurement period, then mortality outcome equals one.	Beneficiaries who: 1) maintained FFS Parts A and B enrollment throughout the measurement period or until death; 2) had not received hospice care in the six months prior to admission; 3) had a measurement period that ends on or before March 29, 2020; 4) survived the anchor stay or procedure.

Note: Payment amounts adjust for Medicare payment policies to ensure that any differences across time and providers reflect real differences in resource use rather than Medicare payment policies (e.g., teaching payments or differential payment updates).

FFS = fee for service; HCPCS = Healthcare Common Procedure Coding System; HHA = home health agency; IPPS = inpatient prospective payment system; IRF = inpatient rehabilitation facility; LTCH = long term care hospital; MS-DRG = Medicare Severity Diagnosis Related Group; PAC = post-acute care setting; PDP = post-discharge period; SNF = skilled nursing facility.

- ^a For all outcomes, the eligible sample was restricted to beneficiaries who: 1) had a complete FFS enrollment history six months prior to the anchor stay or procedure; and 2) had non-missing age and gender data.
- ^b Total payments are winsorized by quarter and MS-DRG/HCPCS code at the 1st and 99th percentiles for total Part A and B episode payments.
- ^c The outcome is based on specifications for the National Quality Forum (NQF) all-cause unplanned readmission measure (NQF measure 1789). Planned admissions are excluded based on the Agency for Healthcare Research and Quality (AHRQ) Clinical Classification System Procedure and Diagnoses codes.
- ^d We define the mortality rate measure to include mortality during both the anchor hospitalization and 90-day PDP. This is a comprehensive measure of mortality since it includes those who do not survive the anchor hospitalization. Beneficiaries who do not survive the anchor hospitalization are not eligible to become a part of the BPCI Advanced Model. Other outcomes analyzed exclude episodes in which the beneficiary did not survive the anchor hospitalization. Beneficiaries that do not survive the first day of the anchor stay are excluded in the pooled regressions.

b. Study Samples

To study the BPCI Advanced Model Year 3 hospital episode initiators, we identified 3,135 hospitals that were eligible to participate in BPCI Advanced for Model Years 1, 2, and 3. We defined eligible hospitals as Inpatient Prospective Payment System (IPPS) hospitals in 2019 that existed during the baseline period for at least one year and satisfied the model's minimum volume requirements for both Model Years 1 and 2 and Model Year 3.¹ The sample excluded hospitals that met any of the following criteria: IPPS-exempt cancer hospital, inpatient psychiatric hospital, critical access hospital, located in Maryland, or participating in the Pennsylvania Rural Health Model or the Rural Community Health Demonstration. We used the BPCI Advanced databases to identify BPCI Advanced hospital episode initiators.

We also identified 19,497 PGPs, defined by a unique Tax Identification Number (TIN), that were our starting sample for eligible PGPs participating in Model Year 3. Eligible PGPs were identified based on national provider identifier (NPI) billing patterns and episodes from 2013 to 2020. We narrowed the pool by imposing a minimum episode volume threshold and removing PGPs that were dissimilar to the BPCI Advanced PGPs participating in Model Year 3.^{2,3} We used the Centers for Medicare and Medicaid Services (CMS) BPCI Advanced database to identify BPCI Advanced PGP episode initiators.

BPCI Advanced Study Population

The BPCI Advanced hospital treatment group was defined as hospital episode initiators participating in at least one clinical episode in Model Year 3. The impact analyses for hospitals were limited to the following 17 clinical episodes with sufficient sample size:⁴

- Acute myocardial infarction (AMI)
- Cardiac arrhythmia
- Chronic obstructive pulmonary disease (COPD), bronchitis, asthma
- Congestive heart failure (CHF)
- Coronary artery bypass graft (CABG)
- Fractures of the femur and hip or pelvis
- Gastrointestinal (GI) hemorrhage
- Hip and femur procedures except major joint

¹ In order to participate in the model for a given clinical episode in Model Years 1 and 2, hospitals had to have initiated more than 40 episodes in the clinical episode between January 1, 2013 and December 31, 2016. In order to participate in Model Year 3, hospitals had to have initiated more than 40 episodes in the clinical episode between October 1, 2014 and September 30, 2018.

² The minimum threshold we imposed was 10 episodes for the minimum average annual volume within a clinical episode across the baseline period.

³ We excluded PGPs that had episode volume, number of NPIs billing to the TIN, or average total episode payments that were below the minimum value of the BPCI Advanced PGPs or were 1.5 standard deviations above the maximum value of the BPCI Advanced PGPs.

⁴ Each of these 17 clinical episodes had at least 53 BPCI Advanced hospital episode initiators and 950 total BPCI Advanced Model Year 3 episodes prior to the caliper selection in our matching process.

- Major joint replacement of the lower extremity (MJRLE)
- Pacemaker
- Percutaneous coronary intervention (PCI), inpatient
- PCI, outpatient
- Renal failure
- Sepsis
- Simple pneumonia and respiratory infections (SPRI)
- Stroke
- Urinary tract infection (UTI)

The BPCI Advanced PGP treatment group was defined as PGP episode initiators participating in at least one clinical episode in Model Year 3. The impact analyses were limited to the following 17 clinical episodes with sufficient sample size:⁵

- AMI
- Cardiac arrhythmia
- Cellulitis
- COPD, bronchitis, asthma
- CHF
- GI hemorrhage
- GI obstruction
- Hip & femur procedures except major joint
- MJRLE
- MJRUE
- PCI, inpatient
- Renal failure
- Sepsis
- SPRI
- Spinal fusion
- Stroke
- UTI

The BPCI Advanced Model did not require participating PGPs to use TINs that existed prior to the beginning of the model or provide billing data of previous, or “legacy”, TINs they used.

⁵ Each of these 17 clinical episodes had at least 38 BPCI Advanced PGP episode initiators and 2,300 total BPCI Advanced Model Year 3 episodes prior to the caliper selection in our matching process.

Some PGPs created new TINs at the beginning of the model or the beginning of Model Year 3 and thus have no baseline claims data available. Historical baseline data is needed to identify a matched comparison PGP and implement the evaluation’s difference-in-differences (DiD) design. To address this limitation, we assigned legacy TINs to PGPs participating under a new TIN based on NPI billing patterns during the baseline period. Specifically, we used Part B Medicare claims and Medicare Data on Provider Practice and Specialty (MD-PPAS) data to identify the NPIs billing to newly created TINs and the legacy TINs prior to the model. We re-aggregated newly formed TINs by combining the new TIN with the associated legacy TIN from the PGP that existed both in the baseline and intervention. We assigned legacy TINs to participating Model Year 3 PGPs where there was sufficient overlap of NPIs and other practice characteristics (74 PGPs).⁶ For cases where we could not identify legacy TINs, we removed the PGP episode initiator from the sample (75 PGPs).

Episodes of Care

We constructed 90-day episodes of care for all eligible discharges across all clinical episodes included in the BPCI Advanced study population for this report. Episodes of care include payments for certain Part B services provided the day before an eligible anchor stay or procedure and all services provided during the anchor stay or procedure and the 90-day post-discharge period.

Episodes of care overlap when a discharge or procedure occurs during an existing episode of care. The BPCI Advanced Model resolves overlapping episodes to identify which episode of care becomes a “BPCI Advanced reconciliation episode.” These **reconciliation rules** in Model Years 1, 2, and 3 are as follows:

- When episodes of care from BPCI Advanced participating providers overlap, the first episode becomes the reconciliation episode.
- When episodes from a BPCI Advanced participant and non-participant overlap, the episode of care from the BPCI Advanced participant becomes the reconciliation episode, regardless of which one occurred first.⁷

Applying these reconciliation rules – prioritizing the creation of BPCI Advanced reconciliation episodes over non-BPCI Advanced episodes – would create asymmetry between the BPCI Advanced and comparison group episodes. Specifically, asymmetric construction of episodes leads to systematic differences in episode characteristics, including payments, between the BPCI Advanced and non-participating providers. Our evaluation applies **modified rules** to resolve

⁶ For example, suppose PGP TIN A decided to create a new TIN that focuses on a particular clinical episode or specialty (TIN B). By reviewing the NPIs that bill through TIN B who had previously billed to TIN A along with other practice characteristics, we can identify that TIN A is the legacy TIN for TIN B, and then assign the episode occurring during the intervention from TIN B to TIN A.

⁷ There are three exceptions to these rules. First, in the case of multiple overlapping MJRLE episodes regardless of provider, the subsequent episode is included in reconciliation. Second, in cases where two episodes begin on the same day, which is only possible when one is inpatient and one is outpatient, the reconciliation rules are applied treating the inpatient episode as the initial clinical episode. Third, for Model Year 3, in cases of a PCI episode overlapping with a following endovascular cardiac valve replacement episode, the subsequent endovascular cardiac valve replacement episode is included in reconciliation and the preceding PCI episode is excluded.

overlapping episodes with the goals of accurately capturing the reach of the BPCI Advanced model and developing a robust study design:

- We apply symmetric rules for episodes initiated by BPCI Advanced and comparison providers.
- We identify all eligible episodes of care for inclusion in our analysis because participants may treat all eligible anchor stay or procedures as BPCI Advanced episodes before confirming the episode has become a reconciliation episode. The inclusion of all eligible episodes would capture any impacts for these additional episodes that are ultimately excluded from reconciliation.
- We avoid counting overlapping time periods more than once in the calculation of average outcomes by only including the first episode in our analytic sample for a given clinical episode when a beneficiary has two overlapping eligible discharges or procedures within the same clinical episode (e.g., *AMI*). If a beneficiary has two overlapping discharges or procedures across different clinical episodes (e.g., *sepsis* and *CHF*), we retain both episodes in their respective analytic samples. This approach avoids counting overlapping time periods more than once in each clinical episode impact estimate. Moreover, the inclusion of the first admission of a pair of overlapping episodes in the analytic sample, regardless of provider, prioritizes symmetry and eliminates overlap between BPCI Advanced and non-BPCI Advanced comparison samples. When the given analysis includes more than one clinical episode sample, we used episode-level weights that reflect the amount any episode overlaps with any other episode in a different clinical episode. This results in each beneficiary only counting once for a given time period.

To evaluate the impact of BPCI Advanced PGPs, we needed to identify episodes “initiated” by non-participating PGPs. A complicating factor in doing this is that a given episode can have two different individual providers, as the episode may have an attending NPI and an operating NPI, and the two NPIs can be associated with different PGPs. (Note this differs from hospital episodes, because an episode can only be associated with one provider, the hospital.) If an episode has two NPIs and one of the NPIs is associated with a BPCI Advanced participating PGP, the model will attribute the episode to the BPCI Advanced participating PGP. Because the evaluation also attributes episodes to non-participating PGPs, we must consider both the attending and operating NPI. In cases when an episode could be attributed to two different PGPs, we attributed the episode to the PGP associated with the attending NPI.

Lastly, our constructed episodes for both hospitals and PGPs differ from those created by reconciliation rules in how we account for overlap between other Center for Medicare and Medicaid Innovation (CMMI) programs and the BPCI Advanced model. In the construction of our episodes, we assumed BPCI Advanced episode initiators do not necessarily know which discharges within a clinical episode will become reconciled under the model. Thus, in both our BPCI Advanced and comparison samples we did not exclude episodes for being aligned to other programs that have precedence over BPCI Advanced, including Medicare Shared Savings Program (MSSP) Track 3, MSSP Enhanced, Comprehensive End Stage Renal Disease (ESRD) Care Model, Next Generation Accountable Care Organization (ACO), and Vermont All-payer ACO. In addition, for analyses of PGP MJRLE episodes, we do not exclude episodes that occur at hospitals

actively participating in the Comprehensive Joint Replacement (CJR) Model. This ensures that for PGPs operating at multiple hospitals their episodes are not censored or distorted for MJRLE.

Comparison Group Selection

The DiD approach compares the change in outcomes for those treated by BPCI Advanced participants to those treated by a group of comparable providers. This estimation strategy relies on the comparison group serving as a counterfactual of the change in outcomes in the absence of the model. We created a comparison group for each clinical episode allowing us to infer outcomes for BPCI Advanced participants had the model not existed.

Hospital Comparison Groups

Comparison hospitals were selected for each clinical episode in three steps (Exhibit C.4):

- First, we identified a sample of eligible hospitals from the universe of hospitals after applying exclusion criteria.
- Second, we identified hospital and market characteristics that were used to assess balance of the matched comparison group.
- Third, each BPCI Advanced hospital was matched to an eligible comparison hospital using propensity score matching, a statistical matching technique, to minimize the differences in the distributions of characteristics between BPCI Advanced and comparison hospitals.

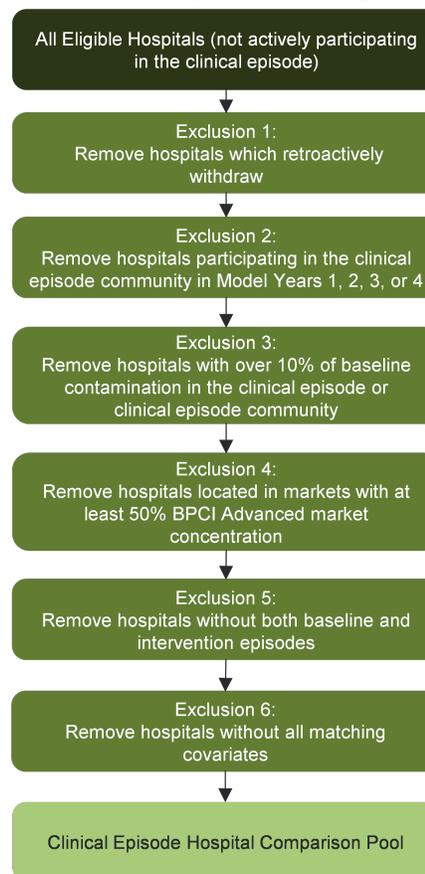
A detailed description of these steps is provided below.

Step 1: Create pool of potential comparison hospitals for each clinical episode

We identified a sample of eligible comparison hospitals by applying exclusion criteria to the universe of hospitals:⁸

- Eligible hospitals. By construction, our eligible comparison pool excluded hospitals that were not eligible for BPCI Advanced in the given clinical episode. We excluded hospitals that were not eligible to participate in Model Years 1 and 2 and hospitals that were not eligible to participate in Model Year 3.
- Retroactive withdrawal. Excluded BPCI Advanced hospitals participating in the clinical episode that retroactively withdrew from the clinical episode (Hospital Exclusion 1).

Exhibit C.4: Steps for Identifying Eligible Comparison Hospitals



⁸ Exclusion criteria were applied based on participation in clinical episodes in Model Years 1, 2, 3, or 4.

- **Clinical Episode Community.** Excluded BPCI Advanced hospitals participating in the same clinical episode community in Model Years 1, 2, 3, or 4 to limit within-hospital spillover effects (Hospital Exclusion 2). Clinical episode communities are four broad groupings of clinical episodes that involve similar medical services or are performed by the same medical specialty.⁹ In addition, we excluded CJR hospitals from the clinical episode community that contains MJRLE.
- **Baseline contamination.** Excluded non-participating hospitals if their contaminated share of episodes, within the clinical episode or clinical episode community, exceeds a 10% threshold during the baseline period to limit within-hospital spillover effects (Hospital Exclusion 3).¹⁰ For hospitals, we deemed an episode contaminated if:
 - The hospitalization was associated with a BPCI Advanced PGP, or
 - The beneficiary was admitted to a BPCI Advanced hospital or was associated with a BPCI Advanced PGP within 90 days before or after admission.
- **Market contamination.** Excluded non-participating hospitals that were located in markets with greater than 50% market share by BPCI Advanced episode initiators for a given clinical episode to limit market spillover effects (Hospital Exclusion 4).
- **Missing data.** Excluded hospitals without discharges for the clinical episode in both the baseline and intervention periods for sample balance and estimation (Hospital Exclusion 5).
- **Missing covariates.** Excluded hospitals with missing information on matching characteristics or without an assigned core-based statistical area (CBSA) code (Hospital Exclusion 6).

For all exclusion steps and matching, we used a national dataset of episodes from April 2013 through December 2017. To check if hospitals had missing data, we additionally used intervention episodes from January 2020 to December 2020. The number of hospitals excluded in each step (sequentially) for each clinical episode is presented in Exhibit C.5.

⁹ Clinical episode communities include the following four groupings: **Surgical: orthopedic excluding spine** (double joint replacement of the lower extremity; hip and femur procedures except major joint; lower extremity and humerus procedure except hip, foot, femur; MJRLE; MJRUE; fractures of the femur and hip or pelvis); **surgical, non-surgical: cardiovascular** (AMI; cardiac arrhythmia; cardiac defibrillator, inpatient; cardiac defibrillator, outpatient; cardiac valve; CHF; CABG; pacemaker; PCI, inpatient; PCI, outpatient; transcatheter aortic valve replacement); **surgical: other** (back and neck except spinal fusion, inpatient; back and neck except spinal fusion, outpatient; major bowel procedure; bariatric surgery; spinal fusion); **non-surgical: other** (cellulitis; COPD, bronchitis, asthma; disorders of the liver except for malignancy, cirrhosis, or alcoholic hepatitis; GI hemorrhage; GI obstruction; renal failure; sepsis; SPRI; stroke; UTI; inflammatory bowel disease; seizures).

¹⁰ In order to have a comprehensive measure of contamination, this and related contamination measures were calculated using 90-day episodes of care for all eligible discharges.

Exhibit C.5: Number of Hospitals Excluded from the Comparison Pool by Reason and Clinical Episode

Clinical Episode	Eligible Hospitals Comparison Pool	Number of Hospitals Excluded						Remaining Comparison Pool
		Exclusion 1. Retroactive Withdrawal	Exclusion 2. Clinical Episode Community	Exclusion 3. Baseline Contamination	Exclusion 4. Market Contamination	Exclusion 5. Missing Data	Exclusion 6. Missing Covariates	
AMI	1,745	63	411	266	40	35	4	926
Cardiac Arrhythmia	2,154	87	417	295	89	60	9	1,197
COPD, Bronchitis, & Asthma	2,484	87	524	240	88	111	17	1,417
CHF	2,578	125	497	379	71	89	13	1,404
CABG	915	50	293	101	7	15	1	448
Fractures of the Femur and Hip or Pelvis	866	26	363	226	0	4	0	247
GI Hemorrhage	2,226	68	651	211	32	59	6	1,199
Hip & Femur Procedures	2,054	100	704	465	30	22	3	730
MJRLE	2,031	93	404	501	97	54	12	870
Pacemaker	1,308	45	433	131	7	22	1	669
PCI (Inpatient)	1,595	85	484	188	17	31	4	786
PCI (Outpatient)	1,266	69	371	147	12	33	7	627
Renal Failure	2,248	87	588	240	55	66	8	1,204
Sepsis	2,219	120	289	238	168	80	12	1,312
SPRI	2,595	112	553	240	78	121	16	1,475
Stroke	2,002	100	516	196	70	50	5	1,065
UTI	2,451	110	610	228	52	87	11	1,353

Note: Counts of excluded hospitals are from sequentially applying the listed exclusions. AMI = acute myocardial infarction; COPD = chronic obstructive pulmonary disease; CHF = congestive heart failure; CABG = coronary artery bypass graft; GI = gastrointestinal; hip & femur procedures = hip and femur procedures except major joint; MJRLE = major joint replacement of the lower extremity; PCI = percutaneous coronary intervention; SPRI = simple pneumonia and respiratory infections; UTI = urinary tract infection.

Source: The BPCI Advanced evaluation team’s analysis of Medicare claims and enrollment data for episodes with anchor stays/procedures that began April 1, 2013 and ended on or before December 31, 2017 (baseline period).

Step 2: Select characteristics for balancing

We conducted descriptive analyses to identify hospital characteristics to be considered for balancing the BPCI Advanced and the matched hospital comparison groups. The characteristics we considered were:

- Levels and trends for key outcomes—total payments, post-acute care (PAC) utilization, emergency department (ED) visits, readmissions, and mortality—for each BPCI Advanced clinical episode during the baseline (April 2013-December 2017).¹¹
- The hospital efficiency measure from the BPCI Advanced Model Year 3 preliminary target prices, which accounts for the clinical episode specific spending of a hospital relative to the average hospital, adjusted for patient and peer group influences on spending.
- Characteristics defined for the peer group in the BPCI Advanced pricing methodology: urban or rural location, safety net status, census division, and bed count.
- Provider-level characteristics selected from public data sources or created from claims, for example: ownership type (for profit, not for profit, government), share of patients enrolled in Medicare, relative share of dual-eligible patients, and episode volume.
- Market characteristics from the Area Health Resources Files or the American Community Survey; examples include county-level demographics (e.g., population), county-level socioeconomic indicators (e.g., household income), and market variables of competition (e.g., Herfindahl index or primary care physicians per capita).

From this list of characteristics, we chose a subset of covariates for the matching procedure for each hospital comparison group. The measures included in the hospital matching models for all clinical episodes are listed in Exhibit C.6. Some covariates varied across clinical episodes according to inpatient and outpatient setting. We included hospitals with outpatient surgery departments as a matching variable for MJRLE, which is a multi-setting clinical episode. Additionally, because outpatient PCI has such low use of PAC, we did not include any PAC measures in the matching model for hospitals for this outpatient clinical episode.

¹¹ Select outcome measures were included as characteristics for matching because BPCI Advanced applicants received baseline data that was used to inform their decision to participate in the model.

Exhibit C.6: Variables Used for Hospital Matching Models

	Measure
Hospital	Ownership – Non-Profit, For-Profit, Government
	Urban/Rural Location
	Part of Health System
	Bed Count
	Resident-Bed Ratio
	Medicare Days Percent
	DSH Patient Percentage
	Average Case Weight of Discharges
	Hospital Market Share
	Episode Volume
	Efficiency Measure
	Outpatient Surgery Department*
	Market
Median Household Income	
Medicare Advantage Penetration (%)	
Herfindahl Index	
PCPs per 10,000 People in Market	
SNF Beds per 10,000 People in Market	
IRF in Market	
Baseline Outcomes	Standardized Part A&B Payment – Average
	Standardized Part A&B Payment – Linear Trend
	Readmission Rate 30-Day – Average
	Readmission Rate 30-Day – Linear Trend
	Institutional PAC – Average**
	Institutional PAC – Linear Trend**
	ED Rate 30-Day – Average
	ED Rate 30-Day – Linear Trend

Note: DSH = Disproportionate Share Hospital; ED = emergency department; PAC = post-acute care; PCP = primary care physician; IRF = inpatient rehabilitation facility; SNF = skilled nursing facility. *Matching variable only used for multi-setting clinical episodes. **Matching variable not used for outpatient clinical episodes.

Step 3: Apply matching method

For each clinical episode, we implemented a one-to-one nearest neighbor matching procedure, without replacement, of potential comparison hospitals using a propensity score. A propensity score is defined as the predictive probability of receiving the “treatment” (BPCI Advanced participation), conditional on a set of characteristics. This probability was estimated using a logistic regression model that included the list of characteristics selected in Step 2.

For each clinical episode, each BPCI Advanced hospital was matched with one comparison hospital with a log-odds propensity score absolute difference below a selected caliper. Calipers were based on the standard deviation of the estimated log-odds propensity score and were

assessed using various thresholds to determine the trade-offs between the improved quality of our matches and the number of BPCI Advanced hospitals removed from the sample. BPCI Advanced hospital episode initiators with no potential matches inside the caliper were excluded from the sample.

Each constructed comparison group was constructed by selecting a caliper that satisfied the following minimum criteria of match quality:

- Average standardized mean difference of all matching covariates had to be below 0.1.
- No single matching covariate could have a standardized mean difference above 0.25.¹²
- The p-value of the Kolmogorov-Smirnov test must be greater than 0.1.

We also assessed and used a variety of other criteria, including minimizing the difference in the baseline total payments (means and distributions), the distributions and differences in estimated propensity scores, the average standardized mean difference in matching covariates between BPCI Advanced hospitals and the comparison group, and analyzing the parallel trends tests and risk-adjusted baseline trends for key outcome variables. (See **Appendix D** for standardized mean differences before and after matching. See **Appendix G** for results of parallel trends testing.)

This entire process, including using calipers and not evaluating all 32 clinical episodes, resulted in including many but not all BPCI Advanced intervention episodes in our impact analyses. For hospitals, approximately 71% of episodes in medical clinical episodes and approximately 54% of episodes in surgical clinical episodes were included in our evaluation sample (Exhibit C.7).¹³

Exhibit C.7: Percentage of BPCI Advanced Intervention Episodes Included in Evaluation

	Total BPCI Advanced Intervention Episodes	Percentage of Total Intervention BPCI Advanced Episodes in Evaluated CEs	Percentage of BPCI Advanced Intervention Episodes in Evaluated CEs Included After Matching	Percentage of Total BPCI Advanced Intervention Episodes Included After Matching
All Clinical Episodes	544,546	92.1%	80.9%	74.5%
Medical	411,202	96.4%	82.2%	79.3%
Surgical	133,344	78.9%	75.9%	59.9%
Hospital	340,697	91.1%	78.3%	71.3%
PGP	203,850	94.0%	85.0%	79.9%
Medical Hospital	291,306	95.8%	77.6%	74.3%
Medical PGP	119,896	98.1%	93.2%	91.5%
Surgical Hospital	49,390	63.4%	85.2%	54.0%
Surgical PGP	83,954	88.0%	72.0%	63.4%

¹² One clinical episode, outpatient PCI, did not meet this criterion of match quality.

¹³ See **Appendix G** Section B for sensitivity analyses that examine whether the hospital results from our impact analyses are generalizable to all BPCI Advanced hospital episode initiators.

Note: Episode counts were not restricted based on the availability of variables used in risk adjustment. Episode-level weights were applied to account for episodes that overlapped between clinical episodes. To avoid double-counting episodes, episodes were assigned to BPCI Advanced PGPs if a given episode was included in both the samples for hospital and PGP episode initiators. CE = clinical episode; PGP = physician group practice.

Source: The BPCI Advanced evaluation team’s analysis of Medicare claims and enrollment data for episodes with anchor stays/procedures that began January 1, 2020 and ended on or before December 31, 2020 (intervention period) for BPCI Advanced episode initiators.

PGP Comparison Groups

We selected comparison PGPs for each clinical episode in a manner that was generally similar to our approach for constructing hospital comparison groups, though we adjusted some details to tailor the approach to PGPs. We outline the steps and provide detailed descriptions below:

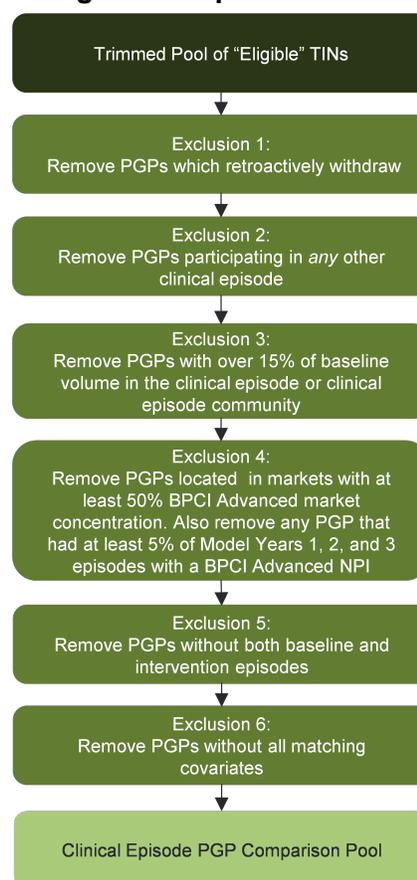
- First, we identified a sample of eligible PGPs (using TINs as the unit of observation) from the universe of PGPs after applying exclusion criteria and constructing episodes for these PGPs.
- Second, we identified PGP and market characteristics that were used to assess balance of the matched comparison group.
- Third, each BPCI Advanced Model Year 3 PGP was matched to an eligible comparison PGP using propensity score matching to minimize the differences in the distributions of characteristics between BPCI Advanced and comparison PGPs.

Step 1: Create pool of potential comparison PGPs for each clinical episode

We identified a sample of potential comparison PGPs by applying exclusion criteria to eligible PGPs:¹⁴

- **Retroactive withdrawal.** Excluded BPCI Advanced PGPs participating in the clinical episode (by construction) and PGPs that retroactively withdrew from the clinical episode (PGP Exclusion 1 in Exhibits C.8 and C.9).
- **Clinical episode participation.** Excluded BPCI Advanced PGPs participating in any other clinical episode(s) to minimize any within-group spillover effects (PGP Exclusion 2).¹⁵ Clinical episode communities are four broad groupings of clinical episodes that involve similar medical services or are performed by the same medical specialty.¹⁶
- **Baseline contamination.** Excluded non-participating PGPs with a contaminated share of

Exhibit C.8: Steps for Identifying Eligible Comparison PGPs



¹⁴ Exclusion criteria were applied based on participation in the clinical episode in Model Years 1, 2, or 3.

¹⁵ This is notably more restrictive than the equivalent exclusion used for hospital comparison groups (Hospital Exclusion 2, clinical episode community).

¹⁶ See previous section on hospital comparison groups for a list of the clinical episode communities.

baseline episodes, within the clinical episode or clinical episode community, exceeding a 15% threshold (PGP Exclusion 3). For PGPs, we deemed an episode contaminated if:

- The discharge itself was associated with a BPCI Advanced episode initiator, or
 - The beneficiary was admitted to a BPCI Advanced hospital or was associated with a BPCI Advanced PGP 90 days before or after admission.
- Episode contamination. Excluded non-participating PGPs that had greater than 5% of their Model Year 1, 2, and 3 episode volume where the attending or operating NPI was associated with a BPCI Advanced episode initiator (PGP Exclusion 4).¹⁷
 - Market contamination. Excluded non-participating PGPs that were located in markets with greater than 50% market share by BPCI Advanced episode initiators for a given clinical episode to limit market spillover effects (PGP Exclusion 4).¹⁸
 - Missing data. Excluded PGPs that had zero episodes in the clinical episode during Model Year 3 (PGP Exclusion 5).
 - Missing covariates. Excluded PGPs with missing information on PGP characteristics we were considering using for matching or without an assigned core-based statistical area (CBSA) code (PGP Exclusion 6).

For all exclusion steps and matching, we used a national dataset of episodes constructed from April 2013 through December 2017. To check if PGPs had missing data, we also used episodes from the intervention period (January 2020 through December 2020). The number of PGPs excluded in each step (sequentially) for each clinical episode is presented in Exhibit C.9.

¹⁷ This additional component of PGP Exclusion 4, episode contamination, does not have an equivalent exclusion in the construction of hospital comparison groups.

¹⁸ We also excluded PGPs that had 100% of their volume at hospitals that had ever participated in CJR.

Exhibit C.9: Number of PGPs Excluded from Comparison Pool by Reason and Clinical Episode

Clinical Episode	Eligible TIN Comparison Pool	Number of PGPs (TINs) Excluded						Remaining Comparison Pool
		Exclusion 1. Retroactive Withdrawal	Exclusion 2. Clinical Episode Participation	Exclusion 3. Baseline Contamination	Exclusion 4. Market & Episode Contamination	Exclusion 5. Missing Data	Exclusion 6. Missing Covariates	
AMI	2,356	30	119	652	126	368	9	1,052
Cardiac Arrhythmia	3,404	36	132	772	259	655	15	1,535
Cellulitis	2,267	27	122	253	51	503	11	1,300
COPD, Bronchitis, & Asthma	5,369	34	124	960	380	1,412	23	2,436
CHF	6,082	36	158	1,798	268	1,187	26	2,609
GI Hemorrhage	4,587	30	121	763	132	1,166	19	2,356
GI Obstruction	1,776	22	96	211	44	333	11	1,059
Hip & Femur Procedures	3,393	70	302	616	156	784	11	1,454
MJRLE	4,665	76	1,314	861	406	655	27	1,326
MJRUE	971	37	154	62	65	164	5	484
PCI (Inpatient)	2,955	29	148	410	68	695	5	1,600
Renal Failure	3,351	27	119	711	193	695	10	1,596
Sepsis	8,657	37	129	2,449	1,148	1,487	31	3,376
SPRI	6,252	32	134	1,093	439	1,539	36	2,979
Spinal Fusion	2,023	36	177	184	142	458	8	1,018
Stroke	3,086	27	126	403	232	682	11	1,605
UTI	3,602	28	127	557	169	881	14	1,826

Note: Counts of excluded PGPs are from sequentially applying the listed exclusions. AMI = acute myocardial infarction; COPD = chronic obstructive pulmonary disease; CHF = congestive heart failure; GI = gastrointestinal; hip & femur procedures = hip and femur procedures except major joint; MJRLE = major joint replacement of the lower extremity; MJRUE = major joint replacement of the upper extremity; PCI = percutaneous coronary intervention; PGP = physician group practice; SPRI = simple pneumonia and respiratory infections; TIN = Tax Identification Number; UTI = urinary tract infection.

Source: The BPCI Advanced evaluation team’s analysis of Medicare claims and enrollment data for episodes with anchor stays/procedures that began April 1, 2013 and ended on or before December 31, 2017 (baseline period) and episodes with anchor stays/procedures that began January 1, 2020 and ended on or before December 31, 2020 (intervention period) for BPCI Advanced episode initiators and matched comparison providers.

Step 2: Select characteristics for balancing

We considered a variety of characteristics for balancing the BPCI Advanced PGPs and the matched comparison group. The characteristics we considered were:

- Levels and trends for key outcomes—total payments, PAC utilization, ED visits, readmissions, and mortality—for each BPCI Advanced clinical episode during the baseline (April 2013-December 2017).
- Provider-level characteristics selected from public data sources or created from claims, for example: relative share of dual-eligible patients, episode volume, number of hospitals where a PGP is actively billing, and number of markets where PGP is actively billing.
- Market characteristics from the Area Health Resources Files or the American Community Survey; examples include population, household income, and measures of market competition. We assigned each PGP to a market based on the plurality of baseline episode volume.

We chose a subset of covariates from this list of characteristics to use in the matching procedures to construct the comparison groups that satisfy a minimum criteria of match quality. Emphasis was put on keeping the matching specification parsimonious and avoiding matching covariates that appeared to be sparse or overly noisy in the data. The matching covariates included in the PGP matching models for all clinical episodes are listed in Exhibit C.10.

Exhibit C.10: Variables Used for PGP Matching Models

	Measure
PGP	Urban/Rural Location
	Part of Health System
	Number of NPIs – Tertiary grouping
	Operating at Three or More Hospitals
	Operating in Multiple Markets
	Episode Volume
	Share of Dual-eligible Beneficiaries
	Share of Female Beneficiaries
	Share of Non-Hispanic White Beneficiaries ^a
	Share of Black or African American Beneficiaries ^a
	Share of Beneficiaries Over 80 Years Old
	Share of Disabled Beneficiaries (Excluding ESRD)
	Share of Episodes with IP Stay in 180 Days Prior
	Average HCC Score
Market	Population
	PCPs per 10,000 in Market ^b
	PGP Market Share in the Clinical Episode ^c

	Measure
Baseline Outcomes	Standardized Part A&B Payment – Average
	Standardized Part A&B Payment – Linear Trend
	Rate of Institutional PAC – Average
	Rate of Institutional PAC – Linear Trend
	Mortality Rate 90-Day – Average ^c
	Mortality Rate 90-Day – Linear Trend ^c
	Readmission Rate 90-Day – Average ^c
	Readmission Rate 90-Day – Linear Trend ^c

Note: All Share variables were calculated for the patient populations for a given clinical episode. ESRD = End-stage Renal Disease; HCC = hierarchical condition category; IP = in patient; NPI = National Provider Identifier; PAC = post-acute care; PCP = primary care physician; PGP = physician group practice.

^a Data on race and ethnicity come from the Medicare enrollment database and use data from the Social Security Administration.

^b Matching variable only used for cellulitis and renal failure.

^c Matching variable not used for cellulitis or renal failure.

Step 3: Apply matching method

As with the hospital comparison group, for each clinical episode, we implemented a one-to-one nearest neighbor matching procedure, without replacement, of potential comparison PGPs using a propensity score. For each clinical episode, each BPCI Advanced PGP was matched with one comparison PGP with a log-odds propensity score absolute difference below a selected caliper. Calipers were based on the standard deviation of the estimated log-odds propensity score; BPCI Advanced PGPs with no potential matches inside the caliper were excluded from the sample.

Each comparison group was constructed by selecting a caliper and matching covariate list (as described in Step 2) to satisfy the following minimum criteria of match quality:

- Average standardized mean difference of matching covariates had to be below 0.1.
- No matching covariates could have a standardized mean difference above 0.25.
- The p-value of the Kolmogorov-Smirnov test must be greater than 0.1.

We assessed and used a variety of other criteria that we also used in the hospital comparison group construction, including: minimizing the difference in the baseline total payments (means and distributions), the distributions and differences in estimated propensity scores, the average standardized mean difference in matching covariates between BPCI Advanced hospitals and the comparison group, and analyzing the parallel trends tests and risk-adjusted baseline trends for key outcome variables. (See **Appendix D** for standardized mean differences before and after matching. See **Appendix G** for results of parallel trends testing.)

As with hospitals, the use of calipers in our matching process and not evaluating all 32 clinical episodes resulted in excluding BPCI Advanced PGP intervention episodes from our impact

analyses. For PGPs, approximately 91% of episodes in medical clinical episodes and 63% of episodes in surgical clinical episodes were included in our evaluation sample (Exhibit C.7).¹⁹

Matching in a Difference-in-Differences Approach

BPCI Advanced is a national voluntary model with a large number of participants that span a wide range of geographies and provider types. By matching on key market and provider characteristics in the baseline, including outcome levels and outcome trends, we selected a subset of the eligible non-participating hospitals and PGPs that were similar to the non-random sample of BPCI Advanced episode initiators. See the Third Evaluation Report, **Appendix C**,²⁰ for a detailed discussion on the potential benefits and potential harm that matching on baseline outcomes may create.

c. Analytic Methods

Difference-in-Differences Approach

Difference-in-differences (DiD) is a statistical technique that quantifies the impact of an intervention or policy. It does this by comparing changes in a *treatment* group (BPCI Advanced) to changes in a comparison group across baseline (pre-intervention) and intervention time periods. This approach eliminates biases from time invariant differences between the BPCI Advanced and comparison episodes and controls for trends that are common between the treatment and comparison populations.²¹

- The DiD baseline period was from April 2013 through December 2017.
- The BPCI Advanced intervention period began in January 2020, and included anchor stays or procedures through December 31, 2020 (Model Year 3).
- Because the request for applications for the BPCI Advanced model was released on January 9, 2018, we excluded the transition period of January through September 2018 from our baseline to limit the influence of anticipatory changes before the official model start.
- Because we are evaluating the impacts of the model during Model Year 3 and the beginning of Model Year 3 allowed new participants to join the model as well as existing participants to reselect their clinical episodes, we also exclude Model Years 1 and 2 (October 2018 through December 2019) from our analysis.

We applied the DiD technique at the episode level to estimate the impact of BPCI Advanced on the key claims-based outcomes while controlling for differences between the BPCI Advanced and comparison episodes in beneficiary, market, and provider characteristics. Using episodes rather

¹⁹ See **Appendix G** Section C for sensitivity analyses that examine whether the PGP results from our impact analyses are generalizable to all BPCI Advanced PGP episode initiators.

²⁰ The BPCI Advanced Third Evaluation Report is available for download at <https://innovation.cms.gov/innovation-models/bpci-advanced>.

²¹ While the DiD model controls for unobserved heterogeneity that is fixed over time, there is no guarantee that this unobserved heterogeneity is, in fact, fixed. It could be the case, for example, that providers with improving outcomes are relatively more likely to sign up for the model, introducing correlation between BPCI Advanced participation and outcomes, which could bias the results.

than participants as observations allows us to directly control for potential changes in patient mix, which may be a response to the model.

A small number of participants withdrew from clinical episodes prior to the end of Model Year 3. We consider these episode initiators to be full Model Year 3 participants, and include all episodes attributed to these episode initiators in the clinical episodes as treated by BPCI Advanced.

Moreover, during Model Year 3, participants were allowed to choose from two different COVID amendments. Amendment 1 allowed the participant to forgo reconciliation for all episodes that began and ended in 2020. Amendment 2 allowed the participant to exclude episodes with a COVID-19 diagnosis from reconciliation.²² Since we are unable to know what COVID amendments comparison (or any non-participating) providers would have chosen if they had been participating in the model, we include all Model Year 3 episodes regardless of if they were excluded from reconciliation due to one of the COVID amendments. In this sense, and by including the small number of withdrawn episode initiators, we are estimating an “intention-to-treat” impact of the model.

The DiD analyses for each outcome in this report were performed separately by clinical-episode and episode-initiator type.²³ To illustrate our estimation strategy, consider the stylized equation,

$$(1) \quad Y_{ikt} = \beta_0 + \beta_1 BPCIA_k + \beta_2 Post_t + \theta(BPCIA_k \cdot Post_t) + \mathbf{X}_{ikt}' \boldsymbol{\beta} + e_{ikt}$$

where Y_{ikt} is the outcome of interest for episode i from provider k during time t . The variable $BPCIA_k$ is an indicator that takes on the value 1 if provider k participated in BPCI Advanced for the given clinical episode. $Post_t$ is an indicator that takes the value of 1 for every episode in the intervention period, and \mathbf{X}_{ikt} is set of covariates at the beneficiary, provider, market, and temporal level for episode i with an anchor end in period t receiving care from provider k . In this linear example, the DiD estimate is the coefficient θ , which determines the differential in outcome Y experienced by beneficiaries receiving services from BPCI Advanced episode initiators during the intervention period relative to beneficiaries receiving services from providers in the comparison group. Lastly, the error term is e_{ikt} .

We used multivariate regression models to control for differences in beneficiary demographics, clinical characteristics, and care use before hospitalization, along with provider characteristics that might be correlated with the outcome. Regression models were selected depending on the type and characteristics of the outcome measure. For example, ordinary least squares models were selected for continuous and count outcomes (e.g., payments, skilled nursing facility (SNF) days), and logistic models were estimated for the binary outcomes (e.g., mortality, institutional post-acute care (PAC) usage, unplanned readmissions). In all specifications we allow standard errors to be clustered at the provider level.

To calculate a single impact on outcomes for groups of clinical episodes that are of interest (i.e., all clinical episodes, medical, hospital medical, PGP medical, surgical, hospital surgical,

²² Only participants that had not withdrawn from the model 90 or more days before the submission due date for the amendments (September 25, 2020) were eligible.

²³ For example, we estimated a DiD regression for total payments (outcome) for CHF (clinical episode) in hospitals (episode initiator).

PGP surgical), we pooled our clinical episode samples and estimated a single regression per outcome per group of clinical episodes. Because our episode definition allows episodes to overlap across clinical episodes (see **Appendix C** Section B.1.b), we used episode-level weights that reflect the amount any episode overlaps with any other episode in the full group of clinical episodes²⁴ and allowed for multi-way clustering at the provider and beneficiary levels when estimating standard errors.

Appendix C Section B.2. below discusses how we used the pooled DiD methodology for the calculation of Medicare program savings.

Estimating Differential Changes

For each population of interest, we compare changes in the *treatment* group (BPCI Advanced) to changes in a comparison group across baseline (pre-intervention) and intervention time periods. The *differential change* is then the difference between the effects for the population and the corresponding reference population. We use this to study potential differential relative changes between the population and reference population.²⁵

For Model Year 3 analyses, we defined the samples in the same manner as we did for the episode-level pooled impact analyses, described above. That is, the time periods follow the same definitions, and we use the same set of providers for our BPCI Advanced treatment and comparison groups.

For the analyses on Model Years 1 through 2, the samples are based on the construction and analyses presented in the Third Annual Report. The set of beneficiaries included in the analyses of beneficiaries from historically underserved populations in Model Years 1 and 2 in this report are those treated by BPCI Advanced participants in Model Years 1 and 2 and their matched comparators. These are not the same providers included in the Model Year 3 analyses as EIs were able to join, exit, or change clinical episode selection. The sample is as defined in Appendix C of the Third Annual Report.²⁶ We follow the aggregation methods as described above to run the pooled analyses on the Model Years 1 through 2, as the samples were constructed at the clinical episode-EI-type level.

²⁴ For example, suppose a beneficiary has a COPD episode from April 1st through July 9th and a CHF episode from May 1st through August 15th. The length of the COPD episode, defined as the end date of the episode minus the start date, lasts 99 days; for the first 30 days, the beneficiary is only in the COPD episode, and for the subsequent 69 days, the beneficiary is in the two episodes. The prorated value of the COPD episode is therefore 0.65 (i.e., 30/99 from the first 30 days + (69/2)/99 from the overlapping days). The CHF episode lasts 106 days; for the first 69 days, the beneficiary is in the two episodes, and for the subsequent 37 days, the beneficiary is only in the CHF episode. The prorated value of the CHF episode is 0.67 (i.e., (69/2)/106 from the overlap days + 37/106 from the last 37 days).

²⁵ Mathematically, this relative difference is the equivalent to a differences-in-differences approach. Conceptually, however, our analysis does involve having one group being affected more or less by the treatment. Our “third difference” simply compares two different relative changes from different populations to study if there are differential changes across populations.

²⁶ See Appendix C: <https://innovation.cms.gov/data-and-reports/2022/bpci-adv-ar3-appendices>

The differential change analyses for each outcome in this report was performed separately by episode type. To illustrate our estimation strategy, consider the stylized equation,

$$(2) \quad Y_{ikt} = \beta_0 + \beta_1 BPCIA_k + \beta_2 Post_t + \theta(BPCIA_k \cdot Post_t) + \beta_3 Population_i + \beta_4(Population_i \cdot BPCIA_k) + \beta_5(Population_i \cdot Post_t) + Y(Population_i \cdot BPCIA_k \cdot Post_t) + X_{ikt}' \beta + e_{ikt}$$

where Y_{ikt} is the outcome of interest for episode i from provider k during time t . The variable, $BPCIA_k$ is an indicator that takes on the value 1 if provider k participated in BPCI Advanced for the given clinical episode. $Post_t$ is an indicator that takes the value of 1 for every episode in the intervention period, and X_{ikt} is the set of covariates at the beneficiary, provider, market, and temporal level for episode i with an anchor end in period t receiving care from provider k . Covariates in the models mirror those in the main pooled analyses.

In this linear example, the estimate of differential change is the coefficient Y , which determines the difference between those in the population of interest and those in the reference population in the differential in outcome Y experienced by beneficiaries receiving services from BPCI Advanced episode initiators during the intervention period relative to beneficiaries receiving services from providers in the comparison group. Lastly, the error term is e_{ikt} .

For our analyses, we considered two different subgroups. The first set of analyses considers the effects for Black or African American beneficiaries relative to Non-Hispanic White beneficiaries.²⁷ In these analyses, we restrict the sample to include only episodes for beneficiaries in these two groups; all other race groups are omitted from the analyses. For the second set of analyses, we analyze the subgroup of dual-eligible beneficiaries relative to all other beneficiaries, where we consider a beneficiary to be dually eligible if they have continuous full or partial dual-enrollment six months prior to the anchor through the end of the episode.

Descriptive Analyses Approach

Analysis of the Representation of Beneficiaries from Populations that have been Historically Underserved

We analyzed the change in composition in the sample based on different exclusion criteria from the model. To perform these analyses, we use the set of all inpatient Medicare discharges and outpatient Medicare discharges with a BPCI Advanced triggering Healthcare Common Procedure Coding System (HCPCS) code that occurred during the intervention period of the model (i.e., October 1, 2018 – December 31, 2020). We keep only the first observation per beneficiary. This allows us to interpret the shares of different demographic groups as shares of beneficiaries rather than shares of discharges.

In the first step of the analysis, we exclude beneficiaries where this discharge does not have a BPCI Advanced triggering Medicare Severity Diagnosis Related Group (MS-DRG). We then exclude the set of beneficiaries that are ineligible due to the model criteria. These restrictions exclude any discharge: at a non-acute care hospital or at a cancer and/or critical access hospital; at a Maryland

²⁷ Black or African American beneficiaries and Non-Hispanic White beneficiaries are identified in the data using the Research Triangle Institute (RTI) race codes from the Master Beneficiary Summary File. The RTI race code is created based on beneficiaries' self-reporting to Medicare and the Social Security Administration, and RTI's race imputation algorithm based on beneficiaries' names and geography.

acute care hospital; with conflicting dates (e.g., discharge date prior to admission date); where the beneficiary is receiving end stage renal disease (ESRD) care (e.g., dialysis in the 90 days prior to the episode, a kidney transplant in the 3 years prior to the episode); where Medicare is not the primary payer in the 90-days prior through the end of the episode; where the beneficiary is not continuously enrolled in Part A & Part B Fee-for-Service (FFS) in the 90-days prior through the end of the episode; where the beneficiary is aligned to an Accountable Care Organization (ACO) or the Rural Health Model; where the anchor stay lasts more than 30 days; or if the outpatient procedure has J1 status indicator and is not the highest ranked revenue line on the claim.

The final sample used includes the set of episodes included in reconciliation in the second true-ups for Model Years 1-3. This sample only includes episodes attributed to participants with all overlap resolved. Similar to the sample above, in the reconciliation sample we limit the sample to only include the first discharge for the beneficiaries.

In the analysis for each subpopulation, we reference the FFS enrollment for that population. Based on the Master Beneficiary Summary Files, we calculate the percent FFS as the weighted annual average of 2018-2020 of the percent of beneficiaries in that demographic group who had at least one month of the year where they were enrolled in Part A & B FFS.

Covariate Selection for Risk Adjustment

The DiD model adjusts for beneficiary, provider, market, and seasonal covariates to control for differences in beneficiaries, markets, and hospitals that are exogenous to the BPCI Advanced model. While we require a core set of covariates in all models, additional clinical-episode and outcome-specific covariates were selected for each model using a least absolute shrinkage and selection operator (LASSO).

We required all DiD models to include a set of risk-adjustment covariates that was based on clinical knowledge and prior research (Exhibit C.11). For each clinical-episode and episode-initiator type, we performed a LASSO regression to select additional covariates for given outcomes.²⁸ Specifically, we estimated a ten-fold cross-validated linear LASSO procedure on baseline episodes from all eligible providers and then used the optimized lambda value to select the set of optional covariates. Each LASSO regression included the core set of required covariates and considered the full list of optional covariates for selection. This data-driven approach to select optional covariates helps maximize model fit while constraining the complexity of the model.

²⁸ For consistency, we used the same selected covariates for total allowed payments, total Medicare paid amounts, SNF payments, IRF payments, HH payments, readmissions payments, and hospice payments. We ran the LASSO procedure for each clinical episode and episode-initiator type using the total allowed payments outcome to optimize the selected covariate list for payment outcomes. Covariates for all other (non-payment) outcome models were selected from separate outcome-, clinical-episode-, and episode-initiator-type-specific LASSO procedures.

Exhibit C.11: Required and Optional Predictive Risk Factors Used to Risk Adjust Claims Outcomes

Domain	Variable Type	Variables
Service Mix	Required	<ul style="list-style-type: none"> Anchor MS-DRG or HCPCS code Hip fracture (<i>MJRLE</i> regressions only) CJR Episode (<i>MJRLE</i> regressions only)
	Optional	[none]
Patient Demographics & Enrollment	Required	<ul style="list-style-type: none"> Age Sex Race and ethnicity* Dual Eligible OREC: Disability (non-ESRD) Alignment to MSSP Track 3, MSSP Enhanced, Comprehensive ESRD Care Model, Next Generation ACO and Vermont ACO during the episode Alignment to BPCI Classic for the episode (binary indicator interacted with calendar year)
	Optional	<ul style="list-style-type: none"> Age squared
Prior Health Conditions	Required	<ul style="list-style-type: none"> HCC score
	Optional	<ul style="list-style-type: none"> Individual HCC flags
COVID-19 Diagnoses	Required	<ul style="list-style-type: none"> Confirmed COVID-19 diagnosis during anchor stay/procedure Confirmed COVID-19 diagnosis during 90 days prior to anchor stay/procedure
Utilization Measures Preceding the Start of the Anchor Stay or Qualifying Inpatient Stay	Required	<ul style="list-style-type: none"> Binary indicators for care in SNF, IRF, LTCH, Hospice, HHA, IPPS and OIP in the six months preceding the start of the episode
	Optional	<ul style="list-style-type: none"> Binary indicators for ED visit and psychiatric visit in the six months preceding the start of the episode
Geography /Market	Required	<ul style="list-style-type: none"> Census Division indicators 7-day moving average of COVID-19 cases in the county on the anchor stay/procedure start date 7-day moving average of COVID-19 cases in the county 29 days after the anchor stay/procedure end date 7-day moving average of COVID-19 deaths in the county on the anchor stay/procedure start date 7-day moving average of COVID-19 deaths in the county 29 days after the anchor stay/procedure end date
	Optional	<ul style="list-style-type: none"> Urban indicator
Seasonality	Required	<ul style="list-style-type: none"> Quarter indicators
	Optional	[none]

Domain	Variable Type	Variables
Provider Characteristics	Required	<ul style="list-style-type: none"> Hospital size (trinary indicators for number of beds) Percent of baseline episodes attributed to PGPs (hospital regressions only)
	Optional	<ul style="list-style-type: none"> Hospital ownership indicators Academic Medical Center Safety Net Hospital Binary indicator for PGPs operating in multiple markets (PGP regressions only) Number of hospitals PGPs operate at (PGP regressions only) Health system affiliation (PGP regressions only)

Note: ACO = accountable care organization; CJR = Comprehensive Care for Joint Replacement Model; ED = emergency department; ESRD = End-Stage Renal Disease; HCC = hierarchical condition category; HCPCS = Healthcare Common Procedure Coding System; HHA = home health agency; IPPS = Inpatient Prospective Payment System; IRF = inpatient rehabilitation facility; LTCH = long-term care hospital; MJRLE = major joint replacement of the lower extremity; MS-DRG = Medicare severity diagnosis related group; MSSP = Medicare shared savings program; OIP = other inpatient; OREC = Original Reason for Entitlement Code; PGP = physician group practice; SNF = skilled nursing facility.

* Data on race and ethnicity come from the Medicare enrollment database and uses data from the Social Security Administration.

Covariates in our pooled models included a set of indicators for anchor stay/procedure MS-DRG/ HCPCS codes for clinical episodes included in the group, a non-interacted set of required covariates, a clinical-episode-specific set of required covariates (i.e., a required set of covariates interacted with an indicator for clinical episode), and a clinical-episode type-specific set of required covariates (i.e., a required set of covariates interacted with an indicator for medical/surgical clinical-episode type). Other covariates varied by group of clinical episodes, and episode-initiator type-specific groups (i.e., hospital medical, PGP medical, hospital surgical, and PGP surgical) included non-required covariates used in the individual clinical episode regressions. When determining the final list of covariates for each pooled grouping for a given outcome, we only included non-required covariates selected by LASSO for all clinical episodes within a given clinical-episode type and episode-initiator type for that outcome (e.g., if HCC 8 was selected for all hospital medical clinical episodes for total allowed payments, it would be included in the DiD covariates list for all hospital medical clinical episodes for that outcome. If HCC 8 was not selected for all clinical episodes within a given clinical-episode type and episode-initiator type for total allowed payments, it would not be included in the covariate lists for any hospital medical clinical episode.)

Parallel Trends Tests

A fundamental assumption of the validity of our DiD design is that the BPCI Advanced group would have followed a similar trend in outcomes as the comparison group if the model had never existed. While this fundamental assumption is always untestable, we can compare the BPCI Advanced and comparison group trends during the baseline period (often referred to as the parallel trends assumption). Evidence of non-parallel trends during the baseline indicates that any estimated impacts (or lack thereof) could be explained by the preexisting differences in the trends and not an actual impact of the model. We tested the null hypothesis that BPCI Advanced participants and comparison providers had parallel trends during the baseline. To do so, we ran a regression of the outcome on a time and treatment dummy interaction term in addition to the full set of patient, provider, and market risk adjusters that are included in the DiD specification on

baseline data for each clinical episode, episode-initiator type, and outcome. We also tested the null hypothesis that BPCI Advanced participants and comparison providers had parallel trends during the baseline for pooled groups of clinical episodes and outcomes. As with the pooled DiDs, we used episode-level weights and allowed for multi-way clustering at the provider and beneficiary levels when estimating standard errors. If there was no differential between the trends of the treatment and comparison group prior to intervention, the interaction coefficient would be near zero and not statistically significant. We rejected the null hypothesis that there were parallel trends in the baseline at the 10% level of significance. We also visually inspected baseline trends to assess the size and direction of any potential bias.

We constructed a comparison group of providers that closely matched BPCI Advanced episode initiators on key characteristics. However, as our analysis was performed at the more granular episode level, there were certain outcome and clinical episode or grouped clinical episode combinations in which we had evidence to reject the null hypothesis of parallel trends.

Although we report results of all DiD estimates, we note outcomes for which we rejected the null hypothesis that there were parallel trends in the baseline. We also provide graphical depictions of the risk-adjusted baseline trends to allow readers to assess the degree and severity of outcomes that “failed” the parallel trends test. These results and trends are reported in **Appendix G**.

Sensitivity Analyses

To test the robustness of our impact estimates, we conducted sensitivity analyses on key outcomes that tested the inclusion and exclusion of specific episodes in our sample. The results of these analyses are presented in **Appendix H**. These tests included the following sample adjustments:

For pooled, hospital, and PGP analyses,

- We assumed that, a priori, BPCI Advanced episode initiators do not know which discharges within a clinical episode will become reconciliation episodes. Thus, episodes aligned to other CMMI programs that have precedence over BPCI Advanced were included in both our BPCI Advanced and comparison samples. We tested if our results are robust to this assumption by excluding episodes aligned to Medicare Shared Savings Program (MSSP) Track 3, MSSP Enhanced, Comprehensive End Stage Renal Disease Care Model, Next Generation ACO, and Vermont All-payer ACO.
- To determine whether the results are generalizable to all BPCI Advanced episode initiators, we estimated the results using the analytic sample selected under the propensity score model with no caliper.

2. Medicare Program Savings

In this section, we define the outcomes and methodology used to calculate Medicare program savings.

Net savings to Medicare was defined as the difference between non-standardized paid amounts and reconciliation payments made to or received from BPCI Advanced participants following the general formula:^{29,30}

$$\text{Medicare savings} = \text{reduction in non-standardized payments} - \text{reconciliation payments}$$

The reduction in non-standardized payments is approximated by multiplying the estimates from the DiD model, which estimates the change in per-episode standardized Medicare paid amounts during the inpatient stay and 90-day post-discharge period (PDP), by a standardized to non-standardized conversion factor.³¹ The DiD impact estimates were extrapolated to all BPCI Advanced episode initiators participating in the clinical episodes we evaluated, including episode initiators that were excluded from our impact analyses because there was not a comparison hospital or PGP inside the selected caliper for our propensity score matching. Sensitivity analyses suggest that this extrapolation was reasonable (see **Appendix H**). For each clinical-episode and episode-initiator type, the per-episode reduction in standardized payments was multiplied by the number of BPCI Advanced episodes with anchor stays or procedures ending between January 1, 2020 to December 31, 2020. To ensure we did not double-count the impact of the model across clinical episodes, we weighted overlapping episodes, resulting in a prorated number of episodes for each clinical episode and episode-initiator type.

Reconciliation payments are payments made to BPCI Advanced participants from Medicare. Participants with intervention episode payments below their target price received the difference as reconciliation payments. Participants with intervention episode payments above their target price repaid the difference to CMS. We used Model Year 3 reconciliation data, regardless of which performance period episodes were reconciled in, and aggregated payments across participants to the clinical-episode level within each participant type. The reconciliation data used from performance periods 3 and 4 are finalized, second true-up amounts. Due to the timing of this report, the data used from performance period 5 are the initial true-up amounts and are subject to slight changes in the forthcoming second true-up amounts.³²

To calculate savings for different groups of pooled clinical episodes (i.e., hospital medical clinical episodes, PGP medical clinical episodes, hospital surgical clinical episodes, PGP surgical clinical episodes, all medical clinical episodes, all surgical clinical episodes, and all clinical episodes or total model), we pooled our clinical episode samples and estimated a single DiD regression on total standardized paid amounts per group of clinical episodes. To account for any overlapping episodes in the regressions, we used episode-level weights for each specific regression sample that account

²⁹ Non-standardized paid amounts vary from the standardized allowed amounts that we use in the main DiD analyses. We use non-standardized paid amounts for this analysis, which approximate the actual payments made from Medicare to providers (without beneficiary cost sharing and incorporating geographic and other payment adjustments).

³⁰ Net savings are reported such that a positive value indicates savings to Medicare and a negative value indicates losses to Medicare. Changes in non-standardized payments and reconciliation payments are reported in this same perspective for consistency.

³¹ Non-standardized payments were calculated by applying a ratio of non-standardized to standardized Medicare paid amounts to our DiD impact estimates on standardized Medicare paid amounts.

³² Model Year 3 performance period 5 episodes are a small share of episodes, since they only include episodes that have post-discharge periods ending after December 31, 2020 and have anchor stays or procedures that end on or before December 31, 2020.

for overlap and multi-way clustering at the provider and beneficiary levels. This allowed us to create ranges (based on the confidence intervals) for the corresponding total reduction in non-standardized spending and Medicare savings that accurately reflected the corresponding sample.

For each Medicare savings estimate, we calculated net savings per episode by dividing net savings by the corresponding prorated number of BPCI Advanced episodes. We also represent net savings as a percentage of what payments would have been absent the BPCI Advanced Model. To do this, we first calculated a counterfactual of the BPCI Advanced mean standardized payments by taking the BPCI Advanced risk-adjusted baseline mean and adding the change in the comparison group (comparison group risk-adjusted intervention mean minus comparison group risk-adjusted baseline mean). This gives us an estimate of what standardized payments would have been absent BPCI Advanced. We then converted this counterfactual mean into non-standardized paid amounts by multiplying the counterfactual mean with the corresponding standardized to non-standardized conversion factor. This was then used as a denominator to express per-episode net savings as a percent.

Additional details about these measures and the net savings calculations can be found in Exhibit C.12.

Exhibit C.12: Definition of Measures Used in the Analysis of Medicare Program Savings

Measure	Definition
Per-episode Change (or Reduction) in Standardized Payments	A per-episode estimate of the change in Medicare payments attributable to BPCI Advanced using the total payments DiD regression model(s) for a given clinical-episode and episode-initiator type or pooled group of clinical episodes. The payment outcome, total Medicare Part A & B standardized paid amounts, includes all Medicare paid amounts for services during the anchor stay and 90 days post-discharge, and excludes beneficiary cost sharing. We used the 90% (or 95%) confidence interval from this DiD estimate to create upper and lower bound estimates. The DiD estimate and the bounds were multiplied by (-1) so that a positive estimate indicates a reduction in payments.
Standardized to Non-standardized Conversion Factor	A ratio of non-standardized to standardized Medicare paid amounts based on BPCI Advanced intervention episodes; specific to the given sample (clinical episode and episode-initiator type or pooled group of clinical episodes).
Per-episode Change (or Reduction) in Non-Standardized Payments	The DiD estimate of per-episode change in standardized payments multiplied by the standardized to non-standardized conversion factor. Non-standardized Medicare paid amounts reflect actual payments made from Medicare to providers because they include adjustments for wages, practice expenses, and other initiatives (e.g., medical education).
Prorated Number of BPCI Advanced Episodes	For a given clinical-episode and episode-initiator type or pooled group of clinical episodes, the prorated total number of intervention-period episodes from all Model Year 3 BPCI Advanced episode initiators. The counts were calculated by weighting overlapping episodes in our analytic sample to account for when a beneficiary has one or more concurrent episodes (across all clinical episodes). Weights were designed to be proportional to the number of days that episodes overlap. The prorated number of episodes is used to convert per-episode estimates to aggregate estimates and vice versa.
Aggregate Change (or Reduction) in Non-standardized Payments	The per-episode change in non-standardized payments multiplied by the prorated number of episodes for a given clinical episode and episode-initiator type or pooled group of clinical episodes.

Measure	Definition
Reconciliation Payments	Reconciliation payments are defined as total amounts paid to BPCI Advanced participants by Medicare net of repayments from participants to Medicare. Negative values indicate that more funds have been received by Medicare than paid. For a given sample (clinical-episode and episode-initiator type or pooled group of clinical episodes), episodes from all BPCI Advanced episode initiators in Model Year 3 were included. Clinical episode reconciliation payments do not account for several model adjustments that are applied at the episode initiator and convener level (i.e., the stop-loss/stop-gain provision, the Composite Quality Score adjustment, and the post-episode spending repayment amount).
Net Savings to Medicare; Net Medicare Savings; Medicare Program Savings	For a given clinical-episode and episode-initiator type or pooled group of clinical episodes, the reduction in non-standardized payments less reconciliation payments. A positive value indicates savings; a negative value indicates losses. The terms “net savings”, “[net] Medicare savings”, and “[net] Medicare program savings” are used interchangeably.
Per-episode Net Savings to Medicare	For a given clinical-episode and episode-initiator type or pooled group of clinical episodes, the net savings to Medicare divided by the corresponding prorated number of BPCI Advanced episodes.
Net Savings as a % of BPCI Advanced Counterfactual	For a given clinical-episode and episode-initiator type or pooled group of clinical episodes, net savings as a percentage of what payments would have been absent the BPCI Advanced model. This is net savings divided by the counterfactual. The counterfactual is calculated as the BPCI Advanced baseline mean payment plus the change in the comparison group mean payment (comparison group intervention mean payment minus comparison group baseline mean payment).

3. Patient-reported functional status, care experience, and overall satisfaction with care

The BPCI Advanced beneficiary survey explored differences in patient care experiences and functional outcomes between Medicare beneficiaries cared for by BPCI Advanced providers and similar beneficiaries whose providers did not participate in BPCI Advanced. The beneficiary survey collected information on a set of patient outcomes related to functional status, health care experience, and satisfaction with care and recovery. This section describes the instrument, sampling, administration, outcomes, and analysis of the beneficiary survey.

a. Beneficiary survey instrument

The survey instrument (**Appendix M**) was a revised version of the survey instrument used in the original BPCI evaluation,³³ which was based on items adapted from validated survey instruments, such as the CARE Tool,³⁴ National Health Interview Survey,³⁵ and Short Form 36 Health Survey.³⁶

³³ Centers for Medicare & Medicaid Services (2018). CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 5 Evaluation & Monitoring Annual Report. Prepared by The Lewin Group.

<https://downloads.cms.gov/files/cmimi/bpci-models2-4-yr5evalrpt.pdf>

Trombley MJ, McClellan SR, Kahvecioglu DC, Gu Q, Hassol A, Creel AH, Joy SM, Waldersen BW, and Ogbue C (2019). Association of Medicare’s Bundled Payments for Care Improvement Initiative with Patient-Reported Outcomes. *Health Services Research*, Vol. 54(4).

³⁴ Gage et al. (2012). The Development and Testing of the Continuity Assessment Record and Evaluation (CARE) Item Set.

³⁵ Centers for Disease Control and Prevention. (2012). National Health Interview Survey.

³⁶ Brazier et al. (1992). Validating the SF-36 health survey questionnaire: new outcome measure for primary care, *BMJ*, 305(6846), 160-164.

Based on input from clinical experts at CMS and the evaluation team, four new questions were added to better measure care experience and satisfaction with care. New questions were adapted from the Hospital CAHPS,³⁷ Care Coordination Quality Measure for Primary Care,³⁸ and B-Prepared Instrument,³⁹ and replaced five original questions on discharge timing and level of post-acute care received. The revised instrument underwent cognitive testing with a convenience sample of seven Medicare beneficiaries with recent inpatient and outpatient hospital experience.

The beneficiary survey contained 29 multiple-choice, closed-ended questions and was designed to take an average of 25 minutes to complete. Survey questions covered a range of domains including functional status, health care experience, and satisfaction with care and recovery (Exhibit C.13). For each of seven functional areas, respondents were asked to recall their functional status before the anchor hospital visit (inpatient or outpatient) and also to report their current functional status at the time they were completing the survey, which was at least three months after the anchor hospital visit.

Exhibit C.13: Domain and Survey Items for Beneficiary Survey

Domain	Description
Functional Status^a	<ul style="list-style-type: none"> • Bathing/dressing/toileting/eating • Planning regular tasks • Use of a mobility device • Walking by self without resting • Walking up or down 12 stairs • Physical or emotional problems that interfere with social activities • Pain that interferes with normal activities
Health care experience	<ul style="list-style-type: none"> • Respondent felt prepared to leave the hospital • Medical staff took patient preferences into account when arranging for health care services after leaving the hospital • Respondent had a good understanding of how to take care of herself or himself prior to leaving the hospital • Medical staff clearly explained how to take medications • Medical staff clearly explained needed follow-up appointments • Respondent and caregivers’ ability to manage their health care needs • Medical staff discussed whether patient would have the help they needed when they got home • If help needed at home, medical staff arranged for services at home to help patient manage health
Satisfaction	<ul style="list-style-type: none"> • Overall satisfaction with recovery • Rating of all post-hospital care from 0-10
Personal characteristics	<ul style="list-style-type: none"> • Highest level of education • Permission to follow up with respondent

^a For each of the seven functional areas, respondents were asked to recall their functional status before the anchor hospital visit (inpatient or outpatient) and also to report their current functional status at the time they were completing the survey, which was at least three months after the anchor hospital visit.

³⁷ Agency for Healthcare Research and Quality, Rockville, MD. CAHPS Hospital Survey. Content last reviewed October 2018. <https://www.ahrq.gov/cahps/surveys-guidance/hospital/index.html>.

³⁸ Agency for Healthcare Research and Quality, Rockville, MD. Care Coordination Quality Measure for Primary Care (CCQM-PC). <https://www.ahrq.gov/ncepcr/care/coordination/quality/index.html>.

³⁹ Graulich JF, Novotny NL, and Aldag JC. (2008). Brief Scale Measuring Patient Preparedness for Hospital Discharge to Home: Psychometric Properties. *J Hosp Medc*. Vol 3(6). pp-446-454.

b. Beneficiary survey sample

Timing of Survey Wave

Presented results are from Wave 2 of the BPCI Advanced beneficiary survey, which covered episodes with discharges or outpatient procedures in July or August 2021 (during Model Year 4). We surveyed beneficiaries with episodes initiated by acute-care hospitals and PGPs. Beneficiaries received surveys approximately 90 days after leaving the hospital.

Sample frame

The beneficiary survey used a stratified random sampling method to obtain a representative sample of the BPCI Advanced population and a matched comparison group. We created the sampling frame using Medicare FFS claims from two “rolling” one month samples; the beneficiaries in the two rolling one month samples received their surveys one month apart.⁴⁰ For the first month of Wave 2, claims for July 2021 were pulled in early August 2021 and surveys were mailed in the first week of October 2021. For the second month of Wave 2, claims for August 2021 were pulled in early September 2021 and surveys were mailed the first week of November 2021. This rapid sampling process was employed to reduce recall bias. This process also had the effect of limiting the sample to patients whose claims were filed relatively quickly, within one month of discharge or outpatient procedure.⁴¹

Survey strata were defined separately for hospital and PGP episode initiators. We defined strata to ensure representation of all clinical episodes, and to support the most clinically-precise analyses possible. We included strata in the survey sample that we projected would have at least 310 BPCI Advanced responses and 310 comparison responses given expected response rates.^{42,43} Strata were based on seven categories of medically similar clinical episodes defined by CMS,⁴⁴ and where there was sufficient volume, strata were defined at the clinical episode-level. Lower episode volume among PGP-initiated episodes relative to hospital-initiated for some clinical episodes resulted in different strata configurations between the two settings. One stratum, gastrointestinal episodes with PGP episode initiators, did not have sufficient volume to target 310 completed surveys. We included this as a sampling stratum to enable pooled estimates across all PGP episodes but did not separately analyze that stratum. The sampling strata, and the clinical episodes comprising each stratum, are listed in Exhibit C.14.

⁴⁰ One month of claims was not adequate to reach the necessary sample size at the levels of clinical precision used to define the strata.

⁴¹ Although claims submitted within one month may not represent the entire Medicare population within a stratum due to provider delays in submitting claims, this issue should affect BPCI Advanced and comparison samples equally, and not bias our estimates.

⁴² We used estimated response rates from Wave 1 to determine the size of the initial sample required to yield 310 completed surveys in each group. Estimated response rates used to determine the initial sample size were calculated as the actual observed response rate minus the margin of error. For example, if hospital MJRLE respondents had a response rate of 74%, with a 5% margin of error, we estimated a 69% response.

⁴³ Power analyses indicated that a combined target sample size of 620 completed surveys (310 each for the BPCI Advanced and comparison groups, per stratum per wave) would enable us to reject the hypothesis of no difference in population percentages of our outcomes of interest with power of 0.8 when there is a true underlying difference of 10.0 percentage points in a binary variable with a baseline value of 50%.

⁴⁴ Centers for Medicare & Medicare Services. (2018). Quality Payment Program Overview: BPCI Advanced Conceptual Overview. <https://innovation.cms.gov/files/slides/bpciadvanced-wc-conceptualoverview-slides.pdf>

Exhibit C.14: Wave 2 Strata by Clinical Episode

Hospital or PGP	Stratum	Clinical Episodes
Hospital	MJRLE	MJRLE (multi-setting)
	Orthopedic (excluding MJRLE)	Fractures of the Femur and Hip or Pelvis; Hip and Femur Procedures Except Major Joint; Lower Extremity and Humerus Procedures; MJRUE; DJRLE.
	Spinal Procedures	Back & Neck; Back & Neck (OP); Spinal Fusion
	CHF	CHF
	AMI	AMI
	Cardiac Arrhythmia	Cardiac Arrhythmia
	Cardiac procedures	PCI; PCI (OP); Cardiac Defibrillator (OP); Cardiac Defibrillator; Cardiac Valve; Pacemaker; CABG; TAVR
	Neurological	Stroke; Seizures
	SPRI	SPRI
	COPD, Bronchitis, & Asthma	COPD, Bronchitis, & Asthma
	Renal Failure	Renal Failure
	Sepsis	Sepsis
	Infectious Disease (excluding Sepsis)	Cellulitis, UTI
Gastrointestinal	Major Bowel Procedure; GI Hemorrhage; GI Obstruction; Disorders of the Liver; Bariatric Surgery; IBD	
PGP	MJRLE	MJRLE
	Spine, Bone, and Joint (excluding MJRLE)	Back & Neck; Back & Neck (OP); Spinal Fusion; Fractures of the Femur and Hip or Pelvis; Hip and Femur Procedures Except Major Joint; Lower Extremity and Humerus Procedures; MJRUE; DJRLE.
	CHF	CHF
	Cardiovascular Episodes (excluding CHF)	AMI; Cardiac Arrhythmia; PCI; PCI (OP); Cardiac Defibrillator (OP); Cardiac Defibrillator; Cardiac Valve; Pacemaker; CABG; TAVR; Stroke; Seizures
	Pulmonary	SPRI; COPD, Bronchitis & Asthma
	Sepsis	Sepsis
	Kidney & Infectious Disease (excluding Sepsis)	Renal Failure; Cellulitis, UTI
Gastrointestinal	Major Bowel Procedure; GI Hemorrhage; GI Obstruction; Disorders of the Liver; Bariatric Surgery; IBD	

Note: AMI = acute myocardial infarction; CABG = coronary artery bypass graft; CHF = congestive heart failure; COPD = chronic obstructive pulmonary disease; DJRLE = double joint replacement of the lower extremity; GI = gastrointestinal; IDB = inflammatory bowel disease; MJRLE = major joint replacement of the lower extremity; MJRUE = major joint replacement of the upper extremity; OP = outpatient; PCI = percutaneous coronary intervention; SPRI = simple pneumonia and respiratory infections; TAVR = transcatheter aortic valve replacement; UTI = urinary tract infection.

Nested within our clinically-defined strata, we also implemented an oversample of beneficiaries belonging to some race and ethnicity categories as identified by the Research Triangle Institute (RTI) race code included in the Master Beneficiary Summary File. Our goal was to obtain 310 BPCI Advanced and comparison responses for each race and ethnicity category to power subgroup

analyses. For any group that did not have sufficient available sample size to target 310 completed surveys, we took a census of available beneficiaries.

Sample construction

The goals of sample construction were to select a representative sample of BPCI Advanced hospital discharges and outpatient procedures and to identify and select an appropriate comparison group of hospital discharges and procedures. We started with the universe of BPCI Advanced hospitals and nonparticipating comparison group hospitals. We then excluded hospitals if they were not eligible for BPCI Advanced and additionally excluded hospitals in various ways to limit exposure of the comparison group to the BPCI Advanced Model and the CJR Model. These exclusions are described in more detail, below.

Our sampling universe comprised all hospital discharges or outpatient procedures that met BPCI Advanced program rules (e.g., no beneficiaries assigned to NextGen ACOs; no visits from hospitals in the Maryland All-Payer model). We followed identical steps to construct the hospital and PGP samples from within the sampling universe, because the PGP comparison group was based on all eligible hospital visits, not visits attributed to comparison PGPs (i.e., we did not identify comparison PGPs from which to sample beneficiaries with episodes). We constructed the hospital and PGP survey samples in four steps.

Step 1 – Excluding hospitals: All BPCI Advanced episode initiators active as of July 2021 were eligible for our sample. We generated a comparison group pool specific to each clinical episode by applying five different types of exclusions by clinical episode and clinical episode service-line group (CESLG). Hospitals were excluded from the clinical episode comparison group pool if:

- They were BPCI Advanced participants for any clinical episode sharing the same CESLG.
- They were ineligible to participate in BPCI Advanced due to low baseline volume for a given clinical episode. For example, a comparison group hospital with a low baseline volume of MJRLE surgeries was excluded from the MJRLE comparison group but would be eligible for inclusion in the sepsis comparison group if this hospital had sufficient sepsis visits.
- More than 10% of their baseline episodes within the clinical episode or corresponding CESLG were touched by BPCI Advanced participants (hospital or PGP).
- They were located in a CBSA where more than 50% of baseline episodes in a given clinical episode were touched by BPCI Advanced participants (hospital or PGP).
- Finally, CJR hospitals were excluded from the comparison group pool for all clinical episodes in the orthopedic surgery CESLG. This CESLG includes MJRLE, the clinical episode corresponding to CJR.

Step 2 – Excluding individual hospital visits: We excluded individual discharges or outpatient procedures from the comparison group to further reduce the risk of contamination from other bundled payment episodes. Specifically, we applied the following exclusions:

- Excluded discharge or procedure where the attending physician or surgeon belonged to a BPCI Advanced PGP, but which was not attributed to BPCI Advanced.

- Excluded discharges or procedures where the beneficiary who made the visit was in a BPCI Advanced or CJR episode at the time of the visit (i.e., the visit occurred within 90 days after the start of a BPCI Advanced or CJR episode).
- Excluded hospital visits where the beneficiary who made the visit was treated in any hospital by a physician belonging to a BPCI Advanced PGP in the prior 90 days.
- Excluded initial hospital discharge or procedure if a beneficiary had more than one discharge or procedure in the month of our data. This exclusion ensured that a beneficiary could only be selected into the sample one time, and that the survey we mailed to them referenced their most recent hospitalization. In that case, only the most recent discharge or procedure was eligible for selection into our sample.

We applied the last two exclusions to the BPCI Advanced group as well to ensure that the characteristics of the beneficiaries would be similar between the two groups.

Step 3 – Selecting BPCI Advanced beneficiaries: We created sampling cells of unique combinations of clinical episodes based on age category (< 65, 65-74, 75-84, 85+) and the presence of a major complication or comorbidity (MCC) for each stratum. We selected a random proportional sample of BPCI Advanced beneficiaries within each sampling cell, subject to our oversample of race and ethnicity categories.

Step 4 – Selecting matched comparison hospital visits: Lastly, each selected BPCI Advanced beneficiary was matched one-to-one with a comparison beneficiary from the same sampling cell.⁴⁵ Within sampling cells, comparison beneficiaries were selected if they had a propensity score nearest to a given BPCI Advanced beneficiary. Propensity scores were estimated based on the beneficiary-, hospital-, and market-level factors described in Exhibit C.15 below.

Exhibit C.15: Predictive Risk Factors Used to Match BPCI Advanced and Comparison Beneficiaries

Domain	Variables
Service Mix^a	<ul style="list-style-type: none"> • Clinical episode or MS-DRG^b • Lower body fracture (MJRLE and Spine, Bone, and Joint strata only) • Knee procedure (MJRLE episode only) • Large vessel ischemic stroke (Stroke episodes only) • Intracerebral hemorrhage (Stroke episodes only) • Major complication or comorbidity
Patient Demographics and Enrollment	<ul style="list-style-type: none"> • Age (under 65, 65-74, 75-84, 85+) • Sex • Race and ethnicity^c • Dual eligibility status • Originally qualified for Medicare due to disability
Prior Utilization Measures	<ul style="list-style-type: none"> • Any inpatient admission in the prior 90 days

⁴⁵ Since beneficiaries in the oversample were necessarily exact-matched by race and ethnicity, these beneficiaries were only exact-matched by clinical episode and race and ethnicity, not MCC or age category.

Domain	Variables
Discharging Hospital Characteristics	<ul style="list-style-type: none"> • 2017 linear HCAHPS score^d • Academic medical center • Bed size (≤ 250; 251-500; 500-850; >850) • Safety-net status • Census region (Northeast, Midwest, South, West) • Urban • Ownership (for-profit, not-for-profit, government/other)
Neighborhood and Market Characteristics	<ul style="list-style-type: none"> • Area Deprivation Index^e • Mean personal income (CBSA level) • Percent of population older than 65 (county level)

Note: CBSA = core metropolitan statistical area; HCAHPS = Hospital Consumer Assessment of Healthcare Providers and Systems; ICD = International Statistical Classification of Diseases; MS-DRG = Medicare Severity Diagnosis Related Group; MJRLE = major joint replacement of the lower extremity.

- ^a Additional variables for MJRLE, spine, bone, and joint, and stroke episodes control for clinical heterogeneity that is not accounted for by MS-DRGs, and which is easily identifiable from ICD-9 and ICD-10 codes.
- ^b For strata defined at the clinical-episode level, we used MS-DRG in the propensity score model. For strata comprised of multiple clinical episodes, we included indicator variables for the clinical episodes, but not MS-DRGs, in the propensity score model.
- ^c Data on race and ethnicity come from the Research Triangle Institute (RTI) race codes from the Master Beneficiary Summary File. The RTI race code is created based on beneficiaries’ self-reporting to Medicare and the Social Security Administration, and RTI’s race imputation algorithm based on beneficiaries’ names and geography.
- ^d The linear HCAHPS score captures patient ratings of their overall experience with a hospital from 0-100, adjusted for patient mix and HCAHPS survey mode. We use 2017 data to avoid possible contamination of HCAHPS responses attributable to BPCI Advanced. This is the only hospital-level factor we included in our propensity score model that was not used by CMS to define the hospital-level target price peer groups.
- ^e The Area Deprivation Index is a measure of socioeconomic status developed by researchers at the University of Wisconsin.⁴⁶

c. Administration of the beneficiary survey

We mailed each sampled beneficiary a paper survey, a postcard reminder, and, for beneficiaries who did not respond to the initial mailings, a second paper survey using priority mail. The first survey was mailed to beneficiaries within about 90 days after leaving the hospital. Beneficiaries who did not respond to the paper survey were contacted via telephone between 148 and 173 days after leaving the hospital.

d. Outcome measures

The BPCI Advanced beneficiary survey instrument asked about seven measures of physical function and for each, respondents were asked to recall their status before the anchor hospitalization (question 2 through question 8), and to report their current functional status at the time of the survey (question 9 through question 15). The seven functional status measures include: (1) bathing, dressing, toileting, and eating; (2) planning regular tasks; (3) moving using a mobility device; (4) walking without resting; (5) going up or down stairs; (6) the frequency with which physical or emotional health interferes with regular social activities; and (7) the frequency with which pain interferes with normal activities.

For each functional status measure, we created trinary measures for improvement, maintenance or decline in initial function. The outcome is marked as improved if a patient moved to a better

⁴⁶ University of Wisconsin School of Medicine and Public Health. 2015 Area Deprivation Index Version 2.0. Downloaded from <https://www.neighborhoodatlas.medicine.wisc.edu/> on 8/1/2019.

functional status level after the episode (e.g., from “complete help needed” before the episode to “no help needed” after the episode) or if the patient recalled having the highest functional status prior to hospitalization and remained in that high status at the time of survey response (e.g., “no help needed” both before hospitalization and after the episode). The outcome is marked as maintained function if the patient did not recall the highest or lowest function prior to hospitalization and reported that their function was the same before the episode and at the time of the survey. The outcome is marked as declined if the patient moved to a worse functional status level after the episode, or if the patient recalled having the lowest functional status prior to hospitalization and remained in that low status at the time of the survey.

The BPCI Advanced survey asked eight questions regarding care experience, and two regarding satisfaction with recovery and care received. All these questions were binary except for a trinary rating of all post-hospital care. More detail on measure specifications for these two domains are shown in Exhibit C.16. All questions and possible responses to each question are available in **Appendix M**.

Exhibit C.16: Definitions for measures of care experience and satisfaction

	Outcome Measure	Response if Indicator=1
Care Experience	Felt “very” or “somewhat” prepared to leave the hospital	Yes
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Agree/strongly agree
	Good understanding of how to take care of self before going home	Agree/strongly agree
	Medical staff clearly explained how to take medications before going home	Agree/strongly agree
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Agree/strongly agree
	Able to manage your health needs since returning home	Agree/strongly agree
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes
	Medical staff arranged services for you at home to help manage your health, if you needed it	Yes
Satisfaction with Care and Recovery	Overall satisfaction with recovery since leaving hospital	Extremely satisfied/quite a bit satisfied
	Rating of all post-hospital care from 0-10 ^a	High (Rating 9-10), middle (7-8), low (0-6)

^a The rating of post-hospital care was a trinary measure

e. Analysis of the beneficiary survey

Analytic approach

We separately analyzed data from respondents whose episodes were initiated by hospitals and PGPs, to obtain estimated differences between BPCI Advanced and comparison beneficiaries averaged across all 34 clinical episodes within each group. We used logistic regression to estimate risk-adjusted differences in binary survey outcomes between the BPCI Advanced and comparison respondents. We used multinomial logistic regression to estimate differences for the trinary survey outcomes and estimated the joint significance of differences across all three

categories. Standard errors were clustered at the hospital level. Results for individual strata are presented in **Appendix I**.

Analytic Groups

Main analysis

The Wave 2 sampling design followed the design used for Wave 1. However, the evaluation team, in collaboration with CMS, made the decision to analyze data at the level of CESLGs rather than at the level of sampling stratum, after the survey had already entered the field. We made this decision since the CESLG is now the level of participation in the model. We analyzed all CESLGs that had a minimum detectable difference (MDD) less than 10.0 percentage points. We report analytic sample sizes, response rates, and MDDs for the CESLGs we analyzed in Exhibit C.17 below. All CESLGs were included in our aggregate analyses regardless of whether they were powered for individual analysis.

Exhibit C.17: Response Rates, Sample Size, and Minimum Detectable Difference by Clinical Episode Service Line Group

Hospital or PGP	Clinical Episode Service Line Group	BPCI Advanced Response Rate	Comparison Response Rate	Difference [p-value]	BPCI Advanced N	Minimum Detectable Difference
Hospital	Cardiac Care	25.8	26.1	-0.2 [0.836]	890	5.9
	Cardiac Procedures	39.3	39.3	0.0 [1.000]	351	9.4
	Medical and Critical Care	21.3	22.5	-1.2 [0.155]	1,448	4.6
	Orthopedics	35.7	38.3	-2.6 [0.131]	577	7.2
	Spinal Procedures	45.7	49.0	-3.3 [0.252]	301	10.0
PGP	Cardiac Care	25.6	22.9	2.7 [0.099]	414	8.9
	Medical and Critical Care	24.0	20.0	4.0 [0.000]	805	6.5
	Orthopedics	41.3	36.4	4.9 [0.029]	457	8.5

Note: PGP = physician group practice.

Source: The BPCI Advanced evaluation team’s analysis of BPCI Advanced beneficiary survey responses for hospital discharges or outpatient procedures that occurred in July or August 2021.

Underserved populations

In addition to analyzing subgroups defined by race and ethnicity corresponding to our oversample, we also analyzed additional populations that have been historically underserved if they met our analytic threshold of a 10.0 percentage point MDD. We report definitions of additional underserved populations in Exhibit C.18, and report response rates, analytic sample sizes, and MDDs for the populations we analyzed in Exhibit C.19.

Exhibit C.18: Additional Underserved Populations Analyzed in Wave 2

Underserved Population	Definition
Rural Beneficiaries	Beneficiary ZIP code designated rural by the Federal Office of Rural Health Policy.
Beneficiaries with Dual Medicare-Medicaid Eligibility	Beneficiary enrolled in Medicaid at any time in the six months preceding anchor event.
Beneficiaries in ZIP codes with high ADI scores	Beneficiary ZIP code in highest 20% of ADI

Note: ADI is a measure of socioeconomic status developed by researchers at the University of Wisconsin. ADI = area deprivation index.

Exhibit C.19: Response Rates, Sample Size, and Minimum Detectable Difference by Underserved Population

Hospital or PGP	Underserved Population	BPCI Advanced Response Rate	Comparison Response Rate	Difference [p-value]	BPCI Advanced N	Minimum Detectable Difference
Hospital	Black or African American Beneficiaries	16.6	17.6	-1.1 [0.412]	361	9.1
	Hispanic Beneficiaries	15.6	17.5	-2.0 [0.111]	375	8.8
	Dual-eligible Beneficiaries	12.3	14.0	-1.7 [0.020]	567	7.2
	Beneficiaries Living in High-ADI ZIP codes	19.9	21.9	-2.0 [0.104]	503	7.6
	Beneficiaries Living in Rural ZIP codes	30.3	30.5	-0.2 [0.887]	694	6.2
PGP	Beneficiaries Living in Rural ZIP codes	27.6	26.9	0.7 [0.650]	568	7.3

Note: ADI is a measure of socioeconomic status developed by researchers at the University of Wisconsin. ADI = area deprivation index.

Source: The BPCI Advanced evaluation team’s analysis of BPCI Advanced beneficiary survey responses for hospital discharges or outpatient procedures that occurred in July or August 2021.

Weighting

For each of the strata we calculated entropy-balanced weights representative of the BPCI Advanced respondents in order to improve the generalizability of results. The weights account for the possibility that BPCI Advanced yields different outcomes for different types of beneficiaries. For example, if BPCI Advanced leads to improved functional status for beneficiaries who are dually eligible for Medicaid, but not for those without dual eligibility, and dual-eligible beneficiaries are under-represented among respondents, then our estimates would understate the true impact of BPCI Advanced. Weighting the respondents to reflect the overall population mitigates the potential for this problem.

The purpose of weighting the comparison group to reflect the BPCI Advanced group is to obtain “doubly robust” estimates of the difference between BPCI Advanced and comparison

respondents.⁴⁷ This means that our estimates will be unbiased if either the regression or weights are correctly specified: they do not both need to be correctly specified.

Within each CESLG, we weighted the analytic data in two stages. First, we calculated entropy-balancing weights⁴⁸ that made the BPCI Advanced respondents representative of the BPCI Advanced population (that is, the sampling frame) based on the risk-adjusting factors described in Exhibit C.20 below. Second, we calculated entropy-balancing weights that made the comparison respondents representative of the (weighted) BPCI Advanced respondents, such that both groups reflected the BPCI Advanced population after applying the survey weights.

We calculated separate entropy-balancing weights for our analysis of underserved populations. For these analyses, we separately weighted respondents from the underserved population to reflect the sampling universe of underserved beneficiaries, and weighted respondents from the reference population to reflect the sampling universe of reference beneficiaries. We then separately weighted underserved respondents from the comparison group to be balanced against underserved BPCI Advanced respondents, and reference group respondents in the comparison group to be balanced against reference BPCI Advanced respondents.

Controlling for differences in patient mix, discharging hospital, and neighborhood

We performed regression-based risk adjustment to ensure comparability between the BPCI Advanced and comparison groups, which included the factors listed in Exhibit C.20.

Exhibit C.20: Predictive risk factors used to risk adjust survey outcomes

Domain	Variables
Service Mix ^a	<ul style="list-style-type: none"> • Clinical-episode type^b • Major complication or comorbidity • Lower body fracture (MJRLE and Spine, Bone, and Joint strata only) • Knee procedure (MJRLE episode only) • Large vessel ischemic stroke (Stroke episodes only) • Intracerebral hemorrhage (Stroke episodes only)
Patient Demographics and Enrollment	<ul style="list-style-type: none"> • Age (under 65, 65-74, 75-84, 85+) • Sex • Race and ethnicity^c • Dual eligibility status • Respondent obtained 4-year degree or higher
Prior health conditions	<ul style="list-style-type: none"> • HCC index: HCC indicators weighted by their relative weight in the CMS-HCC model • Squared HCC index • Functional status using three summary measures^d

⁴⁷ Robins JM, Rotnitzky A, Zhao LF. Estimation of regression coefficients when some regressors are not always observed.” *Journal of the American Statistical Association* 1994; 89(427): 846-866.4.

⁴⁸ Hainmuller J. Entropy Balancing for Causal Effects: A Multivariate Reweighting Method to Produce Balanced Samples in Observational Studies, *Political Analysis* 2012; 20:25–46.

Hainmueller J, Xu Y. ebalance: A Stata Package for Entropy Balancing,” *Journal of Statistical Software* 2013, 54:7

Domain	Variables
Prior utilization measures	<ul style="list-style-type: none"> Any inpatient admission in the prior 6 months Any other institutional care (SNF, IRF, or LTCH, or psychiatric hospital) in prior 6 months Any nursing home care in the prior 6 months
Discharging Hospital Characteristics	<ul style="list-style-type: none"> 2017 linear HCAHPS score^e
Neighborhood Characteristics	<ul style="list-style-type: none"> Area Deprivation Index^f
Survey Dimensions	<ul style="list-style-type: none"> Proxy status (beneficiary had help from someone else in responding to the survey) Survey mode (response obtained via mail versus telephone) Days elapsed between leaving the hospital and survey response

Note: HCAHPS = Hospital Consumer Assessment of Healthcare Providers and Systems; HCC = hierarchical condition category; ICD = International Statistical Classification of Diseases; IRF = inpatient rehabilitation facility; LTCH = long-term care hospital; MJRLE = major joint replacement of the lower extremity; MS-DRG = Medicare Severity Diagnosis Related Group; SNF = skilled nursing facility.

- ^a Additional variables for MJRLE, spine, bone, and joint, and stroke episodes control for clinical heterogeneity that is not accounted for by MS-DRGs, and which is easily identifiable from ICD-9 and ICD-10 codes.
- ^b Analyses of underserved populations used clinical episode service line groups fixed effects instead of clinical episode fixed effects due to many clinical episodes having few or no respondents among the underserved population.
- ^c Data on race and ethnicity come from the Research Triangle Institute (RTI) race codes from the Master Beneficiary Summary File. The RTI race code is created based on beneficiaries’ self-reporting to Medicare and the Social Security Administration, and RTI’s race imputation algorithm based on beneficiaries’ names and geography.
- ^d Three of the functional status questions have only three possible responses, two functional status questions have four possible responses, and two have five. For each of the outcomes with less than five possible responses, the best functional status was coded as 1, the middle status (or two statuses) was coded as 2, and the worst functional status was coded as 3. We created a variable summing the number of functional measures with 2, the number with 3, and also a binary indicator for “missing functional status.” For the two measures with five possible responses we created binary indicators for “all of the time/most of the time” and created a control variable summing the number of indicators equal to 1, as well as a binary indicator for “missing activity status.” For functional status variables with four possible responses, we considered alternative cutoffs for coding responses as 1, 2, or 3; however, none of these alternative cutoffs altered the results in any meaningful way.
- ^e The linear HCAHPS score captures patient ratings of their overall experience with a hospital from 0-100, adjusted for patient mix and HCAHPS survey mode. We use 2017 data to avoid possible contamination of HCAHPS responses attributable to BPCI Advanced.
- ^f The Area Deprivation Index is a measure of socioeconomic status developed by researchers at the University of Wisconsin.

The risk-adjustment model accounts for certain factors that could not be incorporated into our matching algorithm applied at the time of sampling.⁴⁹ We also matched on six attributes of the discharging hospital, five of which were used by CMS to define target price peer groups, but were not included in our final risk-adjustment model.⁵⁰

⁴⁹ For example, we did not have information about education and pre-hospital functional status at the time of sampling; those data come from the survey responses. Likewise, factors such as HCC index score and recent institutional care could not be reliably identified at the time of survey sampling because additional claims runout time would be required and waiting for the data could delay the survey and increase recall bias.

⁵⁰ Results from the original BPCI evaluation indicated that these hospital-level factors were not strongly correlated with survey outcomes. Matching on these factors allows us to ensure the BPCI Advanced and comparison groups are reasonably similar with regards to these factors, without the loss of statistical precision (i.e., larger standard errors) that would likely result from directly controlling for such measures that only weakly predict survey outcomes.

For our aggregate and CESLG-level analyses, the regression model for each outcome can be expressed as:

$$(3) \quad Y_{ijk} = \delta \text{BPCIAdvanced}_{ij} + \beta_k X_{ij} + CE_i + \varepsilon_{ijk}$$

Y_{ijk} is the outcome of interest for individual I , treated at provider j , in clinical episode k . X refers to the risk-adjustment variables (listed above), CE indicates individual indicators for each clinical episode, and BPCIAdvanced is an indicator for a beneficiary who was treated by a BPCI Advanced participating hospital or PGP. The relationship between Y and BPCIAdvanced (indicated by δ) represents the difference between BPCI Advanced and comparison respondents across all clinical episodes.

Our regression equation for underserved populations can be expressed as:

$$(4) \quad Y_{ijk} = \delta_1 \text{UP}_i + \delta_2 \text{BPCIAdvanced}_{ij} + \delta_3 (\text{UP}_i * \text{BPCIAdvanced}_{ij}) + \beta_k X_{ij} + \text{CESLG}_i + \varepsilon_{ijk}$$

Where UP_i indicates individual i belongs to a given underserved population, and CESLG_i reflects an individual indicator for each CESLG. δ_1 captures the difference in outcomes between respondents in the underserved population and their reference group (e.g., dual-eligible beneficiaries relative to non-dual eligible beneficiaries); δ_2 captures the difference in outcomes between BPCI Advanced and comparison respondents in the reference group; and δ_3 captures the difference between BPCI Advanced and comparison respondents who belong to an underserved population relative to the difference between BPCI Advanced and comparison respondents in the reference group. The difference between BPCI Advanced and comparison respondents among members of the underserved population equals $\delta_2 + \delta_3$.

Appendix D: Comparison Group Standardized Differences Tables

The exhibits in this appendix display the standardized differences before and after matching for each variable used to match on for each clinical episode.

Please refer to the following abbreviations, which are used throughout this appendix:

- CBSA = core-based statistical area
- CE = clinical episode
- DSH = disproportionate share
- ED = emergency department
- ESRD = end-stage renal disease
- HCC = hierarchical condition category
- HE = hybrid episode
- IP = inpatient
- IRF = inpatient rehab facility
- NPI = national provider identifier
- PAC = post-acute care
- PCP = primary care provider
- PGP = physician group practice
- SNF = skilled nursing facility

A. Hospitals

Comparison groups were constructed for 17 clinical episodes. Other clinical episodes were excluded from the impact analyses due to small sample size. The tables below list the standardized differences before and after matching for each variable used to match on for each clinical episode.

Exhibit D.1: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Acute Myocardial Infarction

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.07	-0.08
Ownership - For Profit	0.29	0.04
Urban	0.31	0.01
Part of Health System	0.38	0.12
Bed Count - Continuous	0.22	0.00
Resident-Bed Ratio	0.09	0.01
Population - Continuous	0.29	0.03
Median Household Income	0.14	0.04
Medicare Days %	-0.11	0.00
DSH Patient %	0.04	-0.03
Average Case Weight of Discharges	0.12	0.00
Medicare Advantage Penetration (%)	0.23	-0.02
PCPs per 10,000 in Market	-0.16	0.07
SNF Beds per 10,000 in Market	-0.20	-0.04
IRF in Market	0.46	0.03
Hospital Market Share	-0.42	-0.02
Herfindahl Index	-0.46	-0.04
Episode Volume (ep)	0.19	0.10
Efficiency Measure	0.35	0.02
Standardized Part A&B Payment – Average	0.55	0.05
Standardized Part A&B Payment – Change	-0.01	0.01
Institutional PAC – Average	0.27	0.03
Institutional PAC – Slope	0.00	0.09
Readmission Rate 30-Day – Average	0.23	-0.07
Readmission Rate 30-Day – Change	0.08	-0.04
ED Rate 30-Day – Average	-0.44	-0.05
ED Rate 30-Day – Change	-0.12	-0.04

Exhibit D.2: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Cardiac Arrhythmia

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.12	-0.04
Ownership - For Profit	0.35	0.07
Urban	0.47	0.04
Part of Health System	0.50	0.11
Bed Count - Continuous	0.31	0.03
Resident-Bed Ratio	0.02	0.06
Population - Continuous	0.25	0.02
Median Household Income	0.11	0.10
Medicare Days %	-0.18	0.02
DSH Patient %	0.05	0.04
Average Case Weight of Discharges	0.29	0.01
Medicare Advantage Penetration (%)	0.23	-0.05
PCPs per 10,000 in Market	-0.13	0.02
SNF Beds per 10,000 in Market	-0.30	0.01
IRF in Market	0.51	0.02
Hospital Market Share	-0.41	-0.04
Herfindahl Index	-0.50	-0.03
Episode Volume (ep)	0.23	0.03
Efficiency Measure	0.42	0.02
Standardized Part A&B Payment – Average	0.54	0.07
Standardized Part A&B Payment – Change	-0.09	0.08
Institutional PAC – Average	0.32	0.00
Institutional PAC – Slope	0.00	0.12
Readmission Rate 30-Day – Average	0.01	0.08
Readmission Rate 30-Day – Change	-0.06	-0.03
ED Rate 30-Day – Average	-0.52	-0.11
ED Rate 30-Day – Change	0.00	0.08

Exhibit D.3: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Chronic Obstructive Pulmonary Disease, Bronchitis, Asthma

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	0.10	-0.06
Ownership - For Profit	0.23	0.06
Urban	0.53	0.00
Part of Health System	0.59	0.03
Bed Count - Continuous	0.43	-0.01
Resident-Bed Ratio	0.13	0.01
Population - Continuous	0.38	-0.01
Median Household Income	0.22	-0.04
Medicare Days %	-0.20	-0.01
DSH Patient %	0.09	0.05
Average Case Weight of Discharges	0.42	0.00
Medicare Advantage Penetration (%)	0.29	0.02
PCPs per 10,000 in Market	0.00	-0.01
SNF Beds per 10,000 in Market	-0.24	0.03
IRF in Market	0.51	0.02
Hospital Market Share	-0.42	0.01
Herfindahl Index	-0.57	-0.01
Episode Volume (ep)	0.52	-0.06
Efficiency Measure	0.50	0.14
Standardized Part A&B Payment – Average	0.78	0.14
Standardized Part A&B Payment – Change	-0.06	0.03
Institutional PAC – Average	0.32	0.08
Institutional PAC – Slope	-0.01	-0.02
Readmission Rate 30-Day – Average	0.39	0.07
Readmission Rate 30-Day – Change	-0.12	0.10
ED Rate 30-Day – Average	-0.42	0.11
ED Rate 30-Day – Change	-0.05	0.02

Exhibit D.4: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Congestive Heart Failure

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	0.10	0.08
Ownership - For Profit	0.16	-0.01
Urban	0.50	0.03
Part of Health System	0.56	-0.10
Bed Count - Continuous	0.41	-0.04
Resident-Bed Ratio	0.14	0.00
Population - Continuous	0.32	0.06
Median Household Income	0.24	0.06
Medicare Days %	-0.22	-0.06
DSH Patient %	-0.02	0.01
Average Case Weight of Discharges	0.47	-0.10
Medicare Advantage Penetration (%)	0.29	0.06
PCPs per 10,000 in Market	0.02	0.02
SNF Beds per 10,000 in Market	-0.24	-0.02
IRF in Market	0.50	0.01
Hospital Market Share	-0.42	-0.11
Herfindahl Index	-0.57	-0.13
Episode Volume (ep)	0.44	-0.01
Efficiency Measure	0.45	0.09
Standardized Part A&B Payment – Average	0.75	0.01
Standardized Part A&B Payment – Change	-0.12	0.05
Institutional PAC – Average	0.23	0.03
Institutional PAC – Slope	-0.04	0.03
Readmission Rate 30-Day – Average	0.15	-0.02
Readmission Rate 30-Day – Change	-0.08	0.02
ED Rate 30-Day – Average	-0.65	0.00
ED Rate 30-Day – Change	-0.15	0.04

**Exhibit D.5: Standardized Differences of Matching Variables Before and After Matching,
Hospitals, Coronary Artery Bypass Graft**

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	0.07	0.07
Ownership - For Profit	-0.03	-0.08
Urban	0.14	0.00
Part of Health System	-0.03	-0.13
Bed Count - Continuous	0.36	0.08
Resident-Bed Ratio	0.10	0.21
Population - Continuous	0.35	0.02
Median Household Income	0.23	0.05
Medicare Days %	-0.26	-0.01
DSH Patient %	0.28	0.09
Average Case Weight of Discharges	0.07	0.16
Medicare Advantage Penetration (%)	-0.05	-0.12
PCPs per 10,000 in Market	-0.04	0.21
SNF Beds per 10,000 in Market	-0.14	-0.09
IRF in Market	0.57	-0.16
Hospital Market Share	-0.55	0.00
Herfindahl Index	-0.54	0.07
Episode Volume (ep)	0.08	0.07
Efficiency Measure	0.44	0.14
Standardized Part A&B Payment – Average	0.42	0.04
Standardized Part A&B Payment – Change	-0.23	-0.03
Institutional PAC – Average	0.38	0.08
Institutional PAC – Slope	0.02	-0.12
Readmission Rate 30-Day – Average	0.30	0.01
Readmission Rate 30-Day – Change	-0.16	-0.07
ED Rate 30-Day – Average	-0.41	0.20
ED Rate 30-Day – Change	0.12	0.20

Exhibit D.6: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Fractures of the Femur and Hip or Pelvis

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.10	0.09
Ownership - For Profit	0.18	0.05
Urban	0.03	0.14
Part of Health System	0.00	0.00
Bed Count - Continuous	0.10	0.04
Resident-Bed Ratio	-0.05	0.01
Population - Continuous	0.63	0.09
Median Household Income	0.22	0.08
Medicare Days %	0.05	-0.05
DSH Patient %	-0.07	-0.09
Average Case Weight of Discharges	-0.12	0.08
Medicare Advantage Penetration (%)	0.11	-0.01
PCPs per 10,000 in Market	-0.22	0.04
SNF Beds per 10,000 in Market	-0.02	0.03
IRF in Market	0.80	0.11
Hospital Market Share	-0.71	-0.17
Herfindahl Index	-0.63	-0.16
Episode Volume (ep)	0.21	0.01
Efficiency Measure	0.51	0.05
Standardized Part A&B Payment – Average	0.82	0.03
Standardized Part A&B Payment – Change	-0.10	0.06
Institutional PAC – Average	0.19	0.19
Institutional PAC – Slope	0.13	0.05
Readmission Rate 30-Day – Average	0.47	0.07
Readmission Rate 30-Day – Change	0.04	0.16
ED Rate 30-Day – Average	-0.15	-0.13
ED Rate 30-Day – Change	-0.02	-0.03

**Exhibit D.7: Standardized Differences of Matching Variables Before and After Matching,
Hospitals, Gastrointestinal Hemorrhage**

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.07	-0.09
Ownership - For Profit	0.28	0.17
Urban	0.26	-0.14
Part of Health System	0.37	-0.03
Bed Count - Continuous	0.34	-0.16
Resident-Bed Ratio	0.10	-0.06
Population - Continuous	0.28	-0.08
Median Household Income	0.13	-0.10
Medicare Days %	-0.14	0.05
DSH Patient %	0.06	0.03
Average Case Weight of Discharges	0.25	-0.15
Medicare Advantage Penetration (%)	0.07	-0.06
PCPs per 10,000 in Market	-0.09	-0.04
SNF Beds per 10,000 in Market	-0.07	0.11
IRF in Market	0.42	-0.02
Hospital Market Share	-0.29	0.04
Herfindahl Index	-0.39	0.07
Episode Volume (ep)	0.42	-0.14
Efficiency Measure	0.43	0.06
Standardized Part A&B Payment – Average	0.71	0.00
Standardized Part A&B Payment – Change	0.10	-0.02
Institutional PAC – Average	0.36	-0.03
Institutional PAC – Slope	0.05	-0.02
Readmission Rate 30-Day – Average	0.28	-0.05
Readmission Rate 30-Day – Change	0.09	-0.05
ED Rate 30-Day – Average	-0.42	0.12
ED Rate 30-Day – Change	0.03	0.11

Exhibit D.8: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Hip & Femur Procedures except Major Joint

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.08	-0.10
Ownership - For Profit	0.31	0.03
Urban	0.72	0.16
Part of Health System	0.43	-0.06
Bed Count - Continuous	0.34	0.01
Resident-Bed Ratio	0.18	-0.14
Population - Continuous	0.48	0.02
Median Household Income	0.26	-0.06
Medicare Days %	-0.38	-0.06
DSH Patient %	0.00	0.00
Average Case Weight of Discharges	0.44	-0.05
Medicare Advantage Penetration (%)	0.43	0.13
PCPs per 10,000 in Market	0.01	-0.07
SNF Beds per 10,000 in Market	-0.24	-0.12
IRF in Market	0.64	-0.03
Hospital Market Share	-0.49	0.00
Herfindahl Index	-0.58	-0.04
Episode Volume (ep)	0.37	0.04
Efficiency Measure	0.44	0.03
Standardized Part A&B Payment – Average	0.59	0.00
Standardized Part A&B Payment – Change	-0.23	0.24
Institutional PAC – Average	0.35	-0.01
Institutional PAC – Slope	0.00	0.17
Readmission Rate 30-Day – Average	0.23	-0.01
Readmission Rate 30-Day – Change	-0.03	-0.02
ED Rate 30-Day – Average	-0.37	-0.12
ED Rate 30-Day – Change	-0.14	-0.02

Exhibit D.9: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Major Joint Replacement of the Lower Extremity

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.16	0.03
Ownership - For Profit	0.23	0.00
Urban	0.42	0.11
Part of Health System	0.24	0.12
Bed Count - Continuous	0.27	0.02
Resident-Bed Ratio	0.26	-0.14
Population - Continuous	0.47	-0.04
Median Household Income	0.18	0.05
Medicare Days %	-0.18	0.08
DSH Patient %	0.07	-0.15
Average Case Weight of Discharges	0.57	-0.07
Medicare Advantage Penetration (%)	-0.10	-0.02
PCPs per 10,000 in Market	0.09	0.07
SNF Beds per 10,000 in Market	-0.10	0.00
IRF in Market	0.54	-0.03
Hospital Market Share	-0.37	0.10
Herfindahl Index	-0.48	0.09
Episode Volume (ep)	0.20	0.07
Efficiency Measure	0.67	0.10
Standardized Part A&B Payment – Average	0.47	0.01
Standardized Part A&B Payment – Change	-0.22	-0.01
Institutional PAC – Average	0.44	0.10
Institutional PAC – Slope	-0.37	0.01
Readmission Rate 30-Day – Average	0.14	0.08
Readmission Rate 30-Day – Change	0.01	0.02
ED Rate 30-Day – Average	-0.31	-0.04
ED Rate 30-Day – Change	-0.05	0.25
OP Surgery Department	-0.09	-0.18

Exhibit D.10: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Pacemaker

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	0.02	0.04
Ownership - For Profit	0.20	-0.04
Urban	0.21	0.22
Part of Health System	0.22	-0.11
Bed Count - Continuous	0.03	-0.06
Resident-Bed Ratio	-0.05	-0.02
Population - Continuous	0.23	0.03
Median Household Income	0.15	-0.01
Medicare Days %	-0.12	-0.01
DSH Patient %	-0.19	0.05
Average Case Weight of Discharges	-0.33	0.05
Medicare Advantage Penetration (%)	0.15	-0.10
PCPs per 10,000 in Market	-0.03	-0.06
SNF Beds per 10,000 in Market	-0.03	0.00
IRF in Market	0.50	0.15
Hospital Market Share	-0.58	-0.16
Herfindahl Index	-0.56	-0.14
Episode Volume (ep)	0.03	-0.05
Efficiency Measure	0.75	0.09
Standardized Part A&B Payment – Average	0.69	0.02
Standardized Part A&B Payment – Change	-0.09	0.08
Institutional PAC – Average	0.62	0.07
Institutional PAC – Slope	0.17	0.09
Readmission Rate 30-Day – Average	0.26	-0.15
Readmission Rate 30-Day – Change	-0.02	-0.10
ED Rate 30-Day – Average	-0.18	-0.04
ED Rate 30-Day – Change	-0.01	-0.14

Exhibit D.11: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Percutaneous Coronary Intervention

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.23	-0.13
Ownership - For Profit	0.42	0.07
Urban	0.11	-0.05
Part of Health System	0.07	-0.13
Bed Count - Continuous	0.29	-0.08
Resident-Bed Ratio	0.33	0.16
Population - Continuous	0.24	-0.20
Median Household Income	0.02	-0.05
Medicare Days %	-0.17	0.00
DSH Patient %	0.20	0.10
Average Case Weight of Discharges	0.36	-0.10
Medicare Advantage Penetration (%)	0.23	-0.07
PCPs per 10,000 in Market	-0.09	-0.10
SNF Beds per 10,000 in Market	-0.36	-0.04
IRF in Market	0.40	0.04
Hospital Market Share	-0.41	0.07
Herfindahl Index	-0.43	0.09
Episode Volume (ep)	0.02	-0.14
Efficiency Measure	0.54	-0.01
Standardized Part A&B Payment – Average	0.68	-0.06
Standardized Part A&B Payment – Change	-0.21	-0.12
Institutional PAC – Average	0.36	-0.06
Institutional PAC – Slope	0.12	0.01
Readmission Rate 30-Day – Average	0.48	-0.07
Readmission Rate 30-Day – Change	-0.17	-0.12
ED Rate 30-Day – Average	-0.12	0.01
ED Rate 30-Day – Change	-0.14	0.05

Exhibit D.12: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Renal Failure

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.18	-0.02
Ownership - For Profit	0.45	0.01
Urban	0.47	-0.05
Part of Health System	0.54	0.09
Bed Count - Continuous	0.27	-0.01
Resident-Bed Ratio	-0.01	0.05
Population - Continuous	0.26	0.03
Median Household Income	0.12	0.04
Medicare Days %	-0.23	0.07
DSH Patient %	0.02	0.00
Average Case Weight of Discharges	0.29	-0.03
Medicare Advantage Penetration (%)	0.30	0.10
PCPs per 10,000 in Market	-0.11	-0.05
SNF Beds per 10,000 in Market	-0.25	-0.04
IRF in Market	0.54	0.07
Hospital Market Share	-0.46	-0.05
Herfindahl Index	-0.54	-0.06
Episode Volume (ep)	0.40	-0.06
Efficiency Measure	0.50	0.03
Standardized Part A&B Payment – Average	0.72	0.04
Standardized Part A&B Payment – Change	-0.01	0.08
Institutional PAC – Average	0.44	0.01
Institutional PAC – Slope	0.11	0.05
Readmission Rate 30-Day – Average	0.22	0.10
Readmission Rate 30-Day – Change	0.03	-0.02
ED Rate 30-Day – Average	-0.53	-0.04
ED Rate 30-Day – Change	0.04	-0.06

Exhibit D.13: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Sepsis

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	0.09	0.04
Ownership - For Profit	0.23	-0.02
Urban	0.52	0.08
Part of Health System	0.59	0.11
Bed Count - Continuous	0.36	-0.01
Resident-Bed Ratio	0.10	-0.01
Population - Continuous	0.24	-0.01
Median Household Income	0.17	0.05
Medicare Days %	-0.19	0.00
DSH Patient %	-0.05	-0.05
Average Case Weight of Discharges	0.41	-0.01
Medicare Advantage Penetration (%)	0.17	-0.02
PCPs per 10,000 in Market	0.03	0.06
SNF Beds per 10,000 in Market	-0.21	0.02
IRF in Market	0.42	0.01
Hospital Market Share	-0.37	-0.06
Herfindahl Index	-0.46	-0.07
Episode Volume (ep)	0.39	0.05
Efficiency Measure	0.33	-0.05
Standardized Part A&B Payment – Average	0.50	-0.05
Standardized Part A&B Payment – Change	-0.12	0.06
Institutional PAC – Average	0.29	-0.03
Institutional PAC – Slope	-0.03	0.01
Readmission Rate 30-Day – Average	0.30	-0.03
Readmission Rate 30-Day – Change	-0.06	0.00
ED Rate 30-Day – Average	-0.49	-0.03
ED Rate 30-Day – Change	0.01	-0.03

Exhibit D.14: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Simple Pneumonia and Respiratory Infections

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	0.08	-0.02
Ownership - For Profit	0.34	0.06
Urban	0.40	0.03
Part of Health System	0.59	0.10
Bed Count - Continuous	0.37	-0.01
Resident-Bed Ratio	0.07	-0.02
Population - Continuous	0.29	0.00
Median Household Income	0.13	-0.03
Medicare Days %	-0.21	-0.03
DSH Patient %	-0.02	0.03
Average Case Weight of Discharges	0.43	0.02
Medicare Advantage Penetration (%)	0.24	0.01
PCPs per 10,000 in Market	-0.09	-0.03
SNF Beds per 10,000 in Market	-0.23	-0.05
IRF in Market	0.43	-0.05
Hospital Market Share	-0.26	0.01
Herfindahl Index	-0.41	-0.02
Episode Volume (ep)	0.38	-0.01
Efficiency Measure	0.55	-0.03
Standardized Part A&B Payment – Average	0.76	-0.03
Standardized Part A&B Payment – Change	-0.13	-0.02
Institutional PAC – Average	0.41	-0.05
Institutional PAC – Slope	-0.05	0.07
Readmission Rate 30-Day – Average	0.30	-0.04
Readmission Rate 30-Day – Change	-0.01	-0.02
ED Rate 30-Day – Average	-0.51	-0.05
ED Rate 30-Day – Change	0.01	-0.01

Exhibit D.15: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Stroke

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.07	-0.05
Ownership - For Profit	0.30	0.07
Urban	0.52	0.00
Part of Health System	0.43	0.00
Bed Count - Continuous	0.33	-0.05
Resident-Bed Ratio	0.14	-0.02
Population - Continuous	0.20	0.01
Median Household Income	0.19	-0.01
Medicare Days %	-0.23	0.05
DSH Patient %	0.10	0.01
Average Case Weight of Discharges	0.35	-0.06
Medicare Advantage Penetration (%)	0.30	0.03
PCPs per 10,000 in Market	0.06	0.03
SNF Beds per 10,000 in Market	-0.31	-0.07
IRF in Market	0.52	0.01
Hospital Market Share	-0.47	0.00
Herfindahl Index	-0.53	-0.01
Episode Volume (ep)	0.32	-0.08
Efficiency Measure	0.37	0.03
Standardized Part A&B Payment – Average	0.62	-0.03
Standardized Part A&B Payment – Change	-0.15	-0.08
Institutional PAC – Average	0.27	-0.02
Institutional PAC – Slope	-0.05	-0.10
Readmission Rate 30-Day – Average	0.31	0.01
Readmission Rate 30-Day – Change	0.00	0.06
ED Rate 30-Day – Average	-0.25	-0.05
ED Rate 30-Day – Change	0.04	0.03

Exhibit D.16: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Urinary Tract Infection

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	-0.07	-0.15
Ownership - For Profit	0.43	0.14
Urban	0.43	0.00
Part of Health System	0.57	-0.05
Bed Count - Continuous	0.36	-0.04
Resident-Bed Ratio	0.13	0.09
Population - Continuous	0.28	0.03
Median Household Income	0.12	-0.02
Medicare Days %	-0.22	0.04
DSH Patient %	0.08	0.11
Average Case Weight of Discharges	0.47	0.05
Medicare Advantage Penetration (%)	0.14	-0.07
PCPs per 10,000 in Market	-0.08	-0.01
SNF Beds per 10,000 in Market	-0.25	0.01
IRF in Market	0.40	-0.03
Hospital Market Share	-0.31	0.00
Herfindahl Index	-0.43	0.02
Episode Volume (ep)	0.49	-0.11
Efficiency Measure	0.54	0.04
Standardized Part A&B Payment – Average	0.78	0.07
Standardized Part A&B Payment – Change	0.08	-0.02
Institutional PAC – Average	0.40	0.01
Institutional PAC – Slope	0.14	-0.04
Readmission Rate 30-Day – Average	0.21	0.00
Readmission Rate 30-Day – Change	-0.06	-0.06
ED Rate 30-Day – Average	-0.44	0.03
ED Rate 30-Day – Change	-0.05	-0.04

Exhibit D.17: Standardized Differences of Matching Variables Before and After Matching, Hospitals, Percutaneous Coronary Intervention (OP)

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Ownership - Non-Profit	0.09	0.03
Ownership - For Profit	0.08	-0.11
Urban	0.47	-0.09
Part of Health System	0.37	0.00
Bed Count - Continuous	0.25	0.02
Resident-Bed Ratio	0.01	0.03
Population - Continuous	0.34	0.28
Median Household Income	0.28	0.16
Medicare Days %	-0.30	-0.05
DSH Patient %	0.05	-0.14
Average Case Weight of Discharges	0.24	0.06
Medicare Advantage Penetration (%)	0.39	0.04
PCPs per 10,000 in Market	0.08	0.03
SNF Beds per 10,000 in Market	-0.41	0.00
IRF in Market	0.52	0.13
Hospital Market Share	-0.62	-0.01
Herfindahl Index	-0.64	-0.03
Episode Volume (ep)	0.02	0.03
Efficiency Measure	0.23	0.00
Standardized Part A&B Payment – Average	0.22	0.09
Standardized Part A&B Payment – Change	0.13	-0.04
Readmission Rate 30-Day – Average	0.06	0.08
Readmission Rate 30-Day – Change	0.10	0.08
ED Rate 30-Day – Average	-0.21	-0.15
ED Rate 30-Day – Change	-0.02	-0.03

B. Physician Group Practices

Comparison groups were constructed for 17 clinical episodes. Other clinical episodes were excluded from the impact analyses due to small sample size. The tables below list the standardized differences before and after matching for each variable used to match on for each clinical episode.

Exhibit D.18: Standardized Differences of Matching Variables Before and After Matching, PGPs, Acute Myocardial Infarction

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.05	0.09
PGP in Multiple CBSAs	0.74	-0.06
Urban	-0.06	-0.04
CE Shell Volume	0.44	-0.09
Dual Eligible (%)	-0.09	0.04
Percent Female (%)	0.12	0.00
Percent Non-Hispanic White (%)	0.01	-0.08
Percent Black or African American (%)	-0.03	0.09
Percent Over 80 Years Old (%)	0.19	0.12
Percent Disabled, No ESRD (%)	-0.15	-0.12
HEs with IP Stay in 180 Days Before Episode (%)	0.31	-0.02
Institutional PAC – Average	0.29	0.14
Institutional PAC – Slope	-0.18	-0.11
Mortality Rate 90-Day – Average	0.51	0.19
Mortality Rate 90-Day – Change	0.11	0.12
Standardized Part A&B Payment – Average	0.33	0.14
Standardized Part A&B Payment – Change	-0.13	-0.03
Readmission Rate 90-Day – Average	0.08	-0.04
Readmission Rate 90-Day – Change	0.15	0.08
HCC Score	0.29	0.02
Number of Hospitals - 3+	0.36	0.00
Part of Health System	-0.56	0.14
Number of NPIs - Small	-0.23	-0.05
Number of NPIs - Large	0.39	-0.13

Exhibit D.19: Standardized Differences of Matching Variables Before and After Matching, PGP, Cardiac Arrhythmia

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.12	0.06
PGP in Multiple CBSAs	0.81	0.06
Urban	-0.02	0.00
CE Shell Volume	0.58	0.04
Dual Eligible (%)	0.08	-0.01
Percent Female (%)	0.22	-0.01
Percent Non-Hispanic White (%)	-0.08	0.02
Percent Black or African American (%)	-0.06	0.02
Percent Over 80 Years Old (%)	0.28	0.04
Percent Disabled, No ESRD (%)	-0.18	-0.08
HEs with IP Stay in 180 Days Before Episode (%)	-0.09	0.10
Institutional PAC – Average	0.31	-0.10
Institutional PAC – Slope	-0.03	0.08
Mortality Rate 90-Day – Average	0.08	0.20
Mortality Rate 90-Day – Change	-0.16	0.17
Standardized Part A&B Payment – Average	0.42	0.00
Standardized Part A&B Payment – Change	-0.14	0.09
Readmission Rate 90-Day – Average	0.03	0.19
Readmission Rate 90-Day – Change	-0.07	0.04
HCC Score	-0.10	0.12
Number of Hospitals - 3+	0.59	-0.06
Part of Health System	-0.46	-0.12
Number of NPIs - Small	-0.52	0.00
Number of NPIs - Large	0.66	0.06

Exhibit D.20: Standardized Differences of Matching Variables Before and After Matching, PGP, Cellulitis

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.20	0.05
PCPs per 10,000 in Market	-0.18	0.02
PGP in Multiple CBSAs	1.01	0.13
Urban	0.05	0.00
CE Shell Volume	0.58	0.11
PGP Market Share (CE-specific)	0.22	-0.11
Dual Eligible (%)	-0.14	0.19
Percent Female (%)	-0.06	0.06
Percent Non-Hispanic White (%)	0.09	0.13
Percent Black or African American (%)	-0.09	0.01
Percent Over 80 Years Old (%)	-0.09	-0.06
Percent Disabled, No ESRD (%)	-0.09	0.06
HEs with IP Stay in 180 Days Before Episode (%)	-0.28	-0.01
Institutional PAC – Average	0.07	-0.01
Institutional PAC – Slope	0.13	0.09
Standardized Part A&B Payment – Average	0.10	-0.08
Standardized Part A&B Payment – Change	-0.13	0.03
HCC Score	-0.32	0.08
Number of Hospitals - 3+	0.59	0.18
Part of Health System	-0.57	0.20
Number of NPIs - Small	-0.66	0.00
Number of NPIs - Large	0.65	0.22

Exhibit D.21: Standardized Differences of Matching Variables Before and After Matching, PGPs, Chronic Obstructive Pulmonary Disease, Bronchitis, Asthma

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.13	0.22
PGP in Multiple CBSAs	0.82	-0.10
Urban	-0.02	0.06
CE Shell Volume	0.72	-0.06
Dual Eligible (%)	-0.22	-0.17
Percent Female (%)	-0.11	0.02
Percent Non-Hispanic White (%)	0.15	0.03
Percent Black or African American (%)	-0.18	-0.05
Percent Over 80 Years Old (%)	0.02	0.18
Percent Disabled, No ESRD (%)	-0.12	-0.21
HEs with IP Stay in 180 Days Before Episode (%)	-0.36	-0.09
Institutional PAC – Average	-0.11	0.18
Institutional PAC – Slope	-0.07	-0.03
Mortality Rate 90-Day – Average	0.13	0.12
Mortality Rate 90-Day – Change	-0.23	0.01
Standardized Part A&B Payment – Average	-0.07	0.06
Standardized Part A&B Payment – Change	-0.14	0.12
Readmission Rate 90-Day – Average	-0.27	0.02
Readmission Rate 90-Day – Change	-0.14	0.02
HCC Score	-0.08	0.01
Number of Hospitals - 3+	0.53	-0.05
Part of Health System	-0.10	-0.10
Number of NPIs - Small	-0.65	-0.09
Number of NPIs - Large	0.82	-0.08

Exhibit D.22: Standardized Differences of Matching Variables Before and After Matching, PGP, Congestive Heart Failure

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.06	0.16
PGP in Multiple CBSAs	0.72	-0.17
Urban	-0.07	-0.05
CE Shell Volume	0.60	-0.10
Dual Eligible (%)	-0.17	0.00
Percent Female (%)	-0.08	0.06
Percent Non-Hispanic White (%)	0.08	-0.09
Percent Black or African American (%)	-0.12	-0.06
Percent Over 80 Years Old (%)	-0.07	0.17
Percent Disabled, No ESRD (%)	-0.05	-0.16
HEs with IP Stay in 180 Days Before Episode (%)	-0.47	0.05
Institutional PAC – Average	-0.08	0.06
Institutional PAC – Slope	-0.11	-0.10
Mortality Rate 90-Day – Average	-0.10	0.06
Mortality Rate 90-Day – Change	-0.09	-0.06
Standardized Part A&B Payment – Average	-0.05	0.07
Standardized Part A&B Payment – Change	-0.21	-0.05
Readmission Rate 90-Day – Average	-0.17	0.09
Readmission Rate 90-Day – Change	0.02	-0.17
HCC Score	-0.41	0.10
Number of Hospitals - 3+	0.38	-0.03
Part of Health System	-0.17	-0.21
Number of NPIs - Small	-0.58	0.11
Number of NPIs - Large	0.77	0.03

Exhibit D.23: Standardized Differences of Matching Variables Before and After Matching, PGP, Gastrointestinal Hemorrhage

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.01	0.22
PGP in Multiple CBSAs	0.95	-0.08
Urban	-0.06	-0.04
CE Shell Volume	0.43	-0.12
Dual Eligible (%)	0.04	0.05
Percent Female (%)	0.02	0.01
Percent Non-Hispanic White (%)	-0.12	-0.02
Percent Black or African American (%)	0.11	-0.03
Percent Over 80 Years Old (%)	-0.22	-0.07
Percent Disabled, No ESRD (%)	0.12	0.14
HEs with IP Stay in 180 Days Before Episode (%)	-0.03	0.01
Institutional PAC – Average	0.01	-0.07
Institutional PAC – Slope	0.09	0.19
Mortality Rate 90-Day – Average	0.34	-0.16
Mortality Rate 90-Day – Change	-0.10	0.09
Standardized Part A&B Payment – Average	0.30	0.06
Standardized Part A&B Payment – Change	0.09	0.17
Readmission Rate 90-Day – Average	0.02	-0.06
Readmission Rate 90-Day – Change	-0.04	0.07
HCC Score	0.01	-0.04
Number of Hospitals - 3+	0.50	0.11
Part of Health System	-0.29	-0.21
Number of NPIs - Small	-0.24	0.00
Number of NPIs - Large	0.52	-0.06

Exhibit D.24: Standardized Differences of Matching Variables Before and After Matching, PGP, Gastrointestinal Obstruction

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	0.03	-0.12
PGP in Multiple CBSAs	0.96	0.12
Urban	0.03	-0.06
CE Shell Volume	0.47	-0.01
Dual Eligible (%)	-0.15	0.05
Percent Female (%)	0.13	-0.02
Percent Non-Hispanic White (%)	-0.13	-0.15
Percent Black or African American (%)	0.11	0.12
Percent Over 80 Years Old (%)	0.08	0.02
Percent Disabled, No ESRD (%)	-0.18	-0.01
HEs with IP Stay in 180 Days Before Episode (%)	-0.27	0.05
Institutional PAC – Average	-0.07	0.13
Institutional PAC – Slope	-0.07	-0.25
Mortality Rate 90-Day – Average	0.24	0.12
Mortality Rate 90-Day – Change	-0.02	-0.11
Standardized Part A&B Payment – Average	0.09	0.00
Standardized Part A&B Payment – Change	0.04	-0.14
Readmission Rate 90-Day – Average	-0.31	-0.01
Readmission Rate 90-Day – Change	-0.06	-0.03
HCC Score	-0.09	-0.05
Number of Hospitals - 3+	0.31	0.04
Part of Health System	-0.53	-0.04
Number of NPIs - Small	-0.33	0.00
Number of NPIs - Large	0.37	-0.19

Exhibit D.25: Standardized Differences of Matching Variables Before and After Matching, PGP, Hip & Femur Procedures Except Major Joint

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.10	-0.05
PGP in Multiple CBSAs	0.65	0.02
Urban	0.21	0.00
CE Shell Volume	0.96	0.12
Dual Eligible (%)	-0.31	-0.10
Percent Female (%)	0.00	-0.16
Percent Non-Hispanic White (%)	0.14	0.16
Percent Black or African American (%)	-0.04	-0.13
Percent Over 80 Years Old (%)	-0.08	-0.08
Percent Disabled, No ESRD (%)	-0.04	-0.03
HEs with IP Stay in 180 Days Before Episode (%)	-0.02	-0.06
Institutional PAC – Average	-0.07	-0.09
Institutional PAC – Slope	-0.05	-0.22
Mortality Rate 90-Day – Average	0.15	0.17
Mortality Rate 90-Day – Change	0.09	0.05
Standardized Part A&B Payment – Average	-0.09	-0.01
Standardized Part A&B Payment – Change	-0.10	-0.09
Readmission Rate 90-Day – Average	0.07	-0.07
Readmission Rate 90-Day – Change	-0.01	-0.04
HCC Score	-0.16	0.00
Number of Hospitals - 3+	0.69	-0.04
Part of Health System	-0.81	0.00
Number of NPIs - Small	-0.67	0.00
Number of NPIs - Large	1.13	-0.02

Exhibit D.26: Standardized Differences of Matching Variables Before and After Matching, PGP, Major Joint Replacement of the Lower Extremity

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	0.07	-0.05
PGP in Multiple CBSAs	0.51	0.01
Urban	0.32	-0.02
CE Shell Volume	0.75	0.14
Dual Eligible (%)	-0.28	0.02
Percent Female (%)	-0.14	0.01
Percent Non-Hispanic White (%)	0.13	-0.09
Percent Black or African American (%)	-0.07	0.00
Percent Over 80 Years Old (%)	-0.14	0.02
Percent Disabled, No ESRD (%)	-0.29	-0.14
HEs with IP Stay in 180 Days Before Episode (%)	-0.09	-0.10
Institutional PAC – Average	-0.10	-0.03
Institutional PAC – Slope	-0.20	0.01
Mortality Rate 90-Day – Average	-0.06	-0.05
Mortality Rate 90-Day – Change	0.02	-0.07
Standardized Part A&B Payment – Average	-0.17	-0.05
Standardized Part A&B Payment – Change	-0.11	0.06
Readmission Rate 90-Day – Average	-0.14	-0.11
Readmission Rate 90-Day – Change	0.02	0.05
HCC Score	-0.15	-0.10
Number of Hospitals - 3+	0.74	0.04
Part of Health System	-0.67	-0.07
Number of NPIs - Small	-0.62	0.07
Number of NPIs - Large	0.80	0.01

Exhibit D.27: Standardized Differences of Matching Variables Before and After Matching, PGP, Major Joint Replacement of the Upper Extremity

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	0.08	-0.06
PGP in Multiple CBSAs	0.18	-0.09
Urban	0.28	-0.08
CE Shell Volume	0.63	-0.01
Dual Eligible (%)	-0.32	0.05
Percent Female (%)	0.07	0.08
Percent Non-Hispanic White (%)	0.03	-0.08
Percent Black or African American (%)	0.00	0.03
Percent Over 80 Years Old (%)	-0.07	0.14
Percent Disabled, No ESRD (%)	-0.27	-0.07
HEs with IP Stay in 180 Days Before Episode (%)	-0.02	-0.04
Institutional PAC – Average	0.16	0.03
Institutional PAC – Slope	0.14	0.02
Mortality Rate 90-Day – Average	-0.10	-0.04
Mortality Rate 90-Day – Change	0.07	-0.04
Standardized Part A&B Payment – Average	0.17	0.04
Standardized Part A&B Payment – Change	0.20	0.11
Readmission Rate 90-Day – Average	-0.04	-0.08
Readmission Rate 90-Day – Change	0.03	0.11
HCC Score	-0.18	0.07
Number of Hospitals - 3+	0.59	0.00
Part of Health System	-0.84	-0.13
Number of NPIs - Small	-0.35	0.10
Number of NPIs - Large	0.71	0.03

Exhibit D.28: Standardized Differences of Matching Variables Before and After Matching, PGPs, Percutaneous Coronary Intervention (Inpatient)

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	0.07	0.12
PGP in Multiple CBSAs	1.12	0.00
Urban	0.05	-0.11
CE Shell Volume	0.39	-0.09
Dual Eligible (%)	0.12	0.16
Percent Female (%)	0.13	-0.14
Percent Non-Hispanic White (%)	-0.02	-0.19
Percent Black or African American (%)	-0.06	-0.04
Percent Over 80 Years Old (%)	0.29	0.05
Percent Disabled, No ESRD (%)	-0.14	0.09
HEs with IP Stay in 180 Days Before Episode (%)	0.23	0.00
Institutional PAC – Average	0.48	0.10
Institutional PAC – Slope	-0.06	-0.10
Mortality Rate 90-Day – Average	0.16	0.09
Mortality Rate 90-Day – Change	0.20	-0.07
Standardized Part A&B Payment – Average	0.65	0.12
Standardized Part A&B Payment – Change	-0.21	0.16
Readmission Rate 90-Day – Average	0.21	-0.11
Readmission Rate 90-Day – Change	-0.02	0.19
HCC Score	0.21	0.05
Number of Hospitals - 3+	0.36	0.17
Part of Health System	-0.44	0.00
Number of NPIs - Small	-0.30	0.09
Number of NPIs - Large	0.23	-0.05

Exhibit D.29: Standardized Differences of Matching Variables Before and After Matching, PGP, Renal Failure

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.21	0.07
PCPs per 10,000 in Market	-0.33	0.24
PGP in Multiple CBSAs	0.72	-0.09
Urban	-0.21	0.00
CE Shell Volume	0.54	-0.13
PGP Market Share (CE-specific)	0.53	0.09
Dual Eligible (%)	-0.03	-0.03
Percent Female (%)	-0.04	-0.11
Percent Non-Hispanic White (%)	0.17	-0.13
Percent Black or African American (%)	-0.19	0.11
Percent Over 80 Years Old (%)	-0.01	0.08
Percent Disabled, No ESRD (%)	0.05	-0.02
HEs with IP Stay in 180 Days Before Episode (%)	-0.49	-0.01
Institutional PAC – Average	-0.18	0.08
Institutional PAC – Slope	0.04	-0.06
Standardized Part A&B Payment – Average	-0.17	0.19
Standardized Part A&B Payment – Change	0.00	-0.23
HCC Score	-0.38	-0.02
Number of Hospitals - 3+	0.27	0.00
Part of Health System	-0.30	-0.03
Number of NPIs - Small	-0.56	0.10
Number of NPIs - Large	0.70	0.06

Exhibit D.30: Standardized Differences of Matching Variables Before and After Matching, PGP, Sepsis

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.12	0.03
PGP in Multiple CBSAs	0.72	-0.15
Urban	-0.11	0.05
CE Shell Volume	0.76	-0.06
Dual Eligible (%)	-0.27	-0.01
Percent Female (%)	0.00	0.02
Percent Non-Hispanic White (%)	0.27	-0.16
Percent Black or African American (%)	-0.14	0.12
Percent Over 80 Years Old (%)	-0.12	0.02
Percent Disabled, No ESRD (%)	0.00	-0.06
HEs with IP Stay in 180 Days Before Episode (%)	-0.42	-0.19
Institutional PAC – Average	-0.27	0.02
Institutional PAC – Slope	0.14	0.09
Mortality Rate 90-Day – Average	-0.31	-0.09
Mortality Rate 90-Day – Change	-0.24	0.05
Standardized Part A&B Payment – Average	-0.31	-0.04
Standardized Part A&B Payment – Change	-0.06	-0.12
Readmission Rate 90-Day – Average	-0.34	-0.23
Readmission Rate 90-Day – Change	0.01	0.01
HCC Score	-0.34	-0.18
Number of Hospitals - 3+	0.48	-0.02
Part of Health System	-0.08	0.00
Number of NPIs - Small	-0.46	0.10
Number of NPIs - Large	1.08	0.05

Exhibit D.31: Standardized Differences of Matching Variables Before and After Matching, PGP, Simple Pneumonia and Respiratory Infections

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.21	0.01
PGP in Multiple CBSAs	0.91	0.00
Urban	-0.11	0.00
CE Shell Volume	0.79	0.05
Dual Eligible (%)	-0.34	-0.17
Percent Female (%)	0.05	0.03
Percent Non-Hispanic White (%)	0.13	0.08
Percent Black or African American (%)	-0.12	-0.06
Percent Over 80 Years Old (%)	0.02	-0.07
Percent Disabled, No ESRD (%)	-0.19	0.05
HEs with IP Stay in 180 Days Before Episode (%)	-0.58	-0.10
Institutional PAC – Average	-0.22	-0.05
Institutional PAC – Slope	0.03	-0.01
Mortality Rate 90-Day – Average	-0.19	-0.02
Mortality Rate 90-Day – Change	-0.06	0.06
Standardized Part A&B Payment – Average	-0.31	-0.11
Standardized Part A&B Payment – Change	-0.15	0.07
Readmission Rate 90-Day – Average	-0.44	-0.02
Readmission Rate 90-Day – Change	-0.18	0.06
HCC Score	-0.42	0.01
Number of Hospitals - 3+	0.42	0.16
Part of Health System	-0.10	0.15
Number of NPIs - Small	-0.62	-0.19
Number of NPIs - Large	1.08	0.12

Exhibit D.32: Standardized Differences of Matching Variables Before and After Matching, PGP, Stroke

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.14	0.05
PGP in Multiple CBSAs	0.51	0.04
Urban	-0.12	-0.06
CE Shell Volume	0.25	-0.10
Dual Eligible (%)	-0.20	0.11
Percent Female (%)	-0.23	0.24
Percent Non-Hispanic White (%)	0.05	0.01
Percent Black or African American (%)	-0.10	-0.15
Percent Over 80 Years Old (%)	-0.08	-0.09
Percent Disabled, No ESRD (%)	-0.03	0.04
HEs with IP Stay in 180 Days Before Episode (%)	-0.07	-0.09
Institutional PAC – Average	-0.10	0.12
Institutional PAC – Slope	-0.21	-0.06
Mortality Rate 90-Day – Average	-0.07	-0.04
Mortality Rate 90-Day – Change	0.10	0.10
Standardized Part A&B Payment – Average	-0.15	0.12
Standardized Part A&B Payment – Change	-0.16	-0.11
Readmission Rate 90-Day – Average	-0.04	-0.06
Readmission Rate 90-Day – Change	-0.03	0.08
HCC Score	-0.15	-0.17
Number of Hospitals - 3+	0.19	-0.04
Part of Health System	-0.27	0.00
Number of NPIs - Small	-0.20	-0.10
Number of NPIs - Large	0.30	0.00

Exhibit D.33: Standardized Differences of Matching Variables Before and After Matching, PGP, Urinary Tract Infection

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.19	-0.08
PGP in Multiple CBSAs	0.91	0.12
Urban	-0.17	0.04
CE Shell Volume	0.61	-0.03
Dual Eligible (%)	-0.21	0.02
Percent Female (%)	0.06	-0.06
Percent Non-Hispanic White (%)	0.06	-0.14
Percent Black or African American (%)	-0.01	0.11
Percent Over 80 Years Old (%)	0.13	0.09
Percent Disabled, No ESRD (%)	-0.34	0.00
HEs with IP Stay in 180 Days Before Episode (%)	-0.36	-0.11
Institutional PAC – Average	-0.02	-0.08
Institutional PAC – Slope	0.04	-0.03
Mortality Rate 90-Day – Average	0.28	-0.07
Mortality Rate 90-Day – Change	-0.05	0.08
Standardized Part A&B Payment – Average	0.03	-0.09
Standardized Part A&B Payment – Change	-0.10	-0.05
Readmission Rate 90-Day – Average	-0.18	-0.05
Readmission Rate 90-Day – Change	-0.07	0.08
HCC Score	-0.28	-0.04
Number of Hospitals - 3+	0.46	-0.03
Part of Health System	-0.35	0.22
Number of NPIs - Small	-0.50	0.07
Number of NPIs - Large	0.69	0.06

Exhibit D.34: Standardized Differences of Matching Variables Before and After Matching, PGP, Spinal Fusion

Variable	Standardized Difference Before Matching	Standardized Difference After Matching
Population - Continuous	-0.02	-0.04
PGP in Multiple CBSAs	0.02	-0.11
Urban	0.12	0.08
CE Shell Volume	0.58	0.06
Dual Eligible (%)	-0.66	-0.08
Percent Female (%)	0.09	-0.02
Percent Non-Hispanic White (%)	0.29	-0.05
Percent Black or African American (%)	-0.14	-0.03
Percent Over 80 Years Old (%)	0.09	-0.04
Percent Disabled, No ESRD (%)	-0.71	0.02
HEs with IP Stay in 180 Days Before Episode (%)	-0.25	-0.12
Institutional PAC – Average	0.02	-0.05
Institutional PAC – Slope	-0.14	-0.01
Mortality Rate 90-Day – Average	-0.19	0.16
Mortality Rate 90-Day – Change	0.07	0.09
Standardized Part A&B Payment – Average	-0.09	0.04
Standardized Part A&B Payment – Change	-0.07	0.09
Readmission Rate 90-Day – Average	-0.31	0.19
Readmission Rate 90-Day – Change	-0.08	-0.07
HCC Score	-0.41	-0.01
Number of Hospitals - 3+	0.45	0.23
Part of Health System	-0.34	-0.08
Number of NPIs - Small	-0.50	0.08
Number of NPIs - Large	0.59	-0.03

Appendix E: Sample and Patient Characteristics by Clinical Episode

The following supplemental tables display additional characteristics of the evaluation sample, patient characteristics, and beneficiary race and ethnicity by clinical episode.

The sample characteristics tables show the numbers of BPCI Advanced participating episode initiators and associated number of episodes for the matched sample of episode initiators. The numbers of BPCI Advanced participating episode initiators are limited to the BPCI Advanced hospitals and PGPs that met the requirements for evaluation, such as having episode volume during both the baseline and in the intervention periods (Model Year 3, 2020). The numbers of matched BPCI Advanced episode initiators are limited to the BPCI Advanced hospitals and PGPs that were used to calculate the difference-in-differences results. The number of matched BPCI Advanced intervention episodes is based on the sample used to evaluate the impact of the model on total allowed standardized payments. Because episode initiators can participate in multiple clinical episodes, the sum of the number of episode initiators in each category may not equal the overall total count of episode initiators.

The patient mix tables and the beneficiary race and ethnicity tables present results by clinical episode for BPCI Advanced episodes and comparison groups. The tables present the mean values in the baseline period and in Model Year 3 and are not risk adjusted. The relative change represents the difference in the mean of the characteristic for BPCI Advanced episodes in Model Year 3 compared to the baseline period, relative to the change for the comparison group. Institutional PAC setting and home health indicate the share of the sample with recent prior use of PAC services. HCC count is the average number of HCC indicators per patient in the sample, and the HCC score is the average score (or index). Institutional PAC setting, home health, HCC count, and HCC score are based on the six months prior to the anchor hospitalization or procedure. The race and ethnicity data come from the RTI race codes from the Master Beneficiary Summary File (MBSF). The RTI race code is created based on beneficiaries' self-reporting to Medicare and the Social Security Administration, and RTI's race imputation algorithm based on beneficiaries' names and geography.

All results are based on the CMS BPCI Advanced Database, as of April 21, 2022, and the BPCI Advanced evaluation team's analysis of Medicare claims and enrollment data for episodes with anchor stays or procedures beginning April 1, 2013 and ending on or before December 31, 2017 (baseline period) and episodes with anchor stays or procedures beginning January 1, 2020 and ending on or before December 31, 2020 (intervention period) for BPCI Advanced episode initiators and matched comparison providers. See **Appendix C** for additional information on the methods used to determine the sample, the patient mix measures evaluated, and data sources.

Please refer to the following abbreviations, which are used throughout this appendix:

- AMI = acute myocardial infarction
- CABG = coronary artery bypass graft
- CHF = congestive heart failure
- COPD = chronic obstructive pulmonary disease
- ESRD = end-stage renal disease
- GI = gastrointestinal

- HCC = hierarchical conditions category
- MJRLE = major joint replacement of the lower extremity
- MJRUE = major joint replacement of the upper extremity
- MY = Model Year
- OP = outpatient
- PAC = post-acute care
- PCI = percutaneous coronary intervention
- PGP = physician group practice
- pp = percentage point(s)
- RTI = Research Triangle Institute
- SPRI = simple pneumonia and respiratory infections
- UTI = urinary tract infection

A. Sample Characteristics

Exhibit E.1: Matched BPCI Advanced Hospital Episode Initiators Included in the BPCI Advanced Impact Estimates, by Clinical Episode, January 1, 2020 – December 31, 2020

Clinical Episode Type	Clinical Episode	BPCI Advanced Participating Hospitals	Matched BPCI Advanced Hospitals	Intervention Episodes for Matched BPCI Advanced Hospitals
Medical Clinical Episodes	AMI	299	226	9,397
	Cardiac Arrhythmia	337	268	14,297
	COPD, Bronchitis, & Asthma	359	290	12,789
	CHF	251	197	21,065
	GI Hemorrhage	195	142	8,890
	Renal Failure	285	209	13,335
	Sepsis	587	406	82,006
	SPRI	328	263	43,619
	Stroke	273	223	16,811
	UTI	243	200	11,259
Surgical Clinical Episodes	CABG	85	66	2,248
	Fractures of the Femur and Hip or Pelvis	65	47	790
	Hip & Femur Procedures Except Major Joint	118	86	4,589
	MJRLE	84	66	9,367
	Pacemaker	87	61	1,567
	PCI	75	62	2,960
	PCI (OP)	115	87	6,297

Note: See the first page of this appendix for data sources and more information.

Exhibit E.2: Matched BPCI Advanced PGP Episode Initiators Included in the BPCI Advanced Impact Estimates, by Clinical Episode, January 1, 2020 – December 31, 2020

Clinical Episode Type	Clinical Episode	BPCI Advanced Participating PGPs	Matched BPCI Advanced PGPs	Intervention Episodes for Matched BPCI Advanced PGPs
Medical Clinical Episodes	AMI	64	62	4,970
	Cardiac Arrhythmia	71	69	6,841
	Cellulitis	47	45	2,354
	COPD, Bronchitis, & Asthma	82	82	5,991
	CHF	68	60	9,229
	GI Hemorrhage	72	72	7,477
	GI Obstruction	53	52	2,758
	Renal Failure	69	65	6,437
	Sepsis	99	97	31,508
	SPRI	77	77	23,678
	Stroke	68	54	5,514
	UTI	65	65	6,506
Surgical Clinical Episodes	Hip & Femur Procedures Except Major Joint	101	95	9,303
	MJRLE	165	151	30,299
	MJRUE	76	68	4,455
	PCI	38	37	3,516
	Spinal Fusion	70	65	5,974

Note: See the first page of this appendix for data sources and more information.

B. Patient Characteristics

Exhibit E.3: Patient Characteristics, Medical Clinical Episodes, Hospitals, Baseline (April 1, 2013 – October 31, 2017) and Intervention (January 1, 2020 – December 31, 2020)

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
AMI (N=9,544)	Institutional PAC Use	36.3%	35.8%	35.4%	35.8%	-0.94 pp
	Home Health	26.3%	24.6%	24.3%	23.6%	-1.11 pp
	Age: 80+ Years	52.4%	48.5%	51.0%	47.2%	-0.08 pp
	Male	45.8%	47.3%	46.2%	47.7%	-0.05 pp
	Disabled, No ESRD	21.5%	22.0%	22.5%	22.5%	0.43 pp
	Dual Eligibility	22.1%	20.9%	23.8%	22.0%	0.57 pp
	HCC Count	3.0	3.2	2.9	3.2	-0.06
	HCC Score	1.9	2.0	1.8	2.0	-0.02

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
Cardiac Arrhythmia (N=14,504)	Institutional PAC Use	32.7%	30.4%	31.9%	30.2%	-0.61 pp
	Home Health	22.8%	20.3%	19.9%	19.6%	-2.26 pp
	Age: 80+ Years	45.8%	43.0%	43.9%	41.6%	-0.52 pp
	Male	41.2%	42.9%	42.3%	44.3%	-0.41 pp
	Disabled, No ESRD	17.2%	16.0%	18.6%	17.5%	-0.18 pp
	Dual Eligibility	16.5%	14.2%	16.5%	14.5%	-0.25 pp
	HCC Count	2.7	2.8	2.7	2.9	-0.07
	HCC Score	1.7	1.7	1.6	1.7	-0.03
COPD, Bronchitis, & Asthma (N=13,031)	Institutional PAC Use	39.3%	39.7%	39.2%	39.3%	0.24 pp
	Home Health	29.1%	26.9%	26.9%	27.2%	-2.54 pp
	Age: 80+ Years	32.1%	30.1%	31.3%	29.7%	-0.35 pp
	Male	38.3%	38.9%	38.5%	39.2%	-0.04 pp
	Disabled, No ESRD	36.5%	36.8%	37.6%	36.9%	0.86 pp
	Dual Eligibility	34.0%	32.3%	33.5%	32.4%	-0.64 pp
	HCC Count	3.3	3.6	3.2	3.6	-0.04
	HCC Score	2.0	2.2	2.0	2.2	-0.01
CHF (N=21,376)	Institutional PAC Use	51.5%	48.3%	51.6%	48.9%	-0.50 pp
	Home Health	37.7%	37.1%	37.2%	37.0%	-0.36 pp
	Age: 80+ Years	54.0%	52.5%	53.7%	51.8%	0.35 pp
	Male	45.9%	45.7%	45.9%	46.7%	-0.93 pp
	Disabled, No ESRD	23.0%	22.3%	23.6%	23.2%	-0.32 pp
	Dual Eligibility	23.3%	21.1%	23.2%	21.2%	-0.22 pp
	HCC Count	4.2	4.4	4.2	4.4	0.01
	HCC Score	2.5	2.6	2.4	2.6	0.00
GI Hemorrhage (N=9,008)	Institutional PAC Use	42.1%	41.6%	41.6%	41.7%	-0.51 pp
	Home Health	26.4%	26.5%	24.3%	25.3%	-0.99 pp
	Age: 80+ Years	47.9%	47.1%	48.6%	47.4%	0.49 pp
	Male	44.8%	46.0%	45.9%	46.5%	0.59 pp
	Disabled, No ESRD	21.6%	20.9%	20.5%	19.2%	0.70 pp
	Dual Eligibility	23.4%	21.6%	22.9%	20.3%	0.84 pp
	HCC Count	3.1	3.3	3.0	3.3	-0.01
	HCC Score	1.9	2.1	1.9	2.1	0.00
Renal Failure (N=13,548)	Institutional PAC Use	46.4%	45.1%	45.7%	45.4%	-1.06 pp
	Home Health	35.2%	34.0%	32.4%	32.7%	-1.42 pp
	Age: 80+ Years	46.1%	44.2%	44.2%	44.5%	-2.14 pp
	Male	45.6%	47.6%	45.1%	47.3%	-0.22 pp
	Disabled, No ESRD	26.8%	26.0%	27.9%	25.1%	2.00 pp
	Dual Eligibility	29.3%	27.3%	27.9%	24.6%	1.25 pp
	HCC Count	3.6	3.8	3.5	3.8	-0.04
	HCC Score	2.2	2.4	2.2	2.4	-0.02

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
Sepsis (N=83,563)	Institutional PAC Use	45.8%	42.8%	45.6%	42.8%	-0.21 pp
	Home Health	29.4%	27.4%	28.3%	26.5%	-0.18 pp
	Age: 80+ Years	40.8%	38.1%	40.9%	38.3%	-0.09 pp
	Male	45.9%	47.9%	46.2%	48.1%	0.14 pp
	Disabled, No ESRD	31.4%	30.6%	31.1%	30.0%	0.30 pp
	Dual Eligibility	33.1%	32.4%	33.9%	32.3%	0.80 pp
	HCC Count	3.6	3.6	3.5	3.6	-0.04
	HCC Score	2.3	2.4	2.3	2.4	-0.02
SPRI (N=44,403)	Institutional PAC Use	40.7%	33.9%	40.8%	33.7%	0.31 pp
	Home Health	29.3%	22.9%	28.4%	22.4%	-0.39 pp
	Age: 80+ Years	49.9%	42.4%	50.3%	42.7%	0.10 pp
	Male	46.2%	47.1%	46.1%	47.5%	-0.54 pp
	Disabled, No ESRD	25.5%	25.9%	25.1%	24.6%	0.87 pp
	Dual Eligibility	28.2%	29.4%	27.1%	28.4%	-0.04 pp
	HCC Count	3.2	2.9	3.2	2.9	-0.02
	HCC Score	2.1	1.9	2.1	1.9	-0.01
Stroke (N=17,088)	Institutional PAC Use	25.1%	23.2%	24.4%	21.7%	0.71 pp
	Home Health	20.2%	18.9%	19.4%	18.2%	-0.11 pp
	Age: 80+ Years	47.4%	45.1%	46.1%	44.1%	-0.24 pp
	Male	44.2%	45.3%	44.3%	45.1%	0.31 pp
	Disabled, No ESRD	19.2%	17.6%	19.2%	18.2%	-0.56 pp
	Dual Eligibility	20.2%	18.1%	19.2%	17.4%	-0.28 pp
	HCC Count	2.2	2.3	2.1	2.2	0.03
	HCC Score	1.4	1.5	1.4	1.4	0.02
Urinary Tract Infection (N=11,416)	Institutional PAC Use	43.6%	43.2%	43.8%	42.4%	0.88 pp
	Home Health	38.9%	37.7%	38.1%	36.8%	0.06 pp
	Age: 80+ Years	56.2%	54.5%	56.2%	55.6%	-1.05 pp
	Male	27.4%	28.6%	27.1%	28.5%	-0.32 pp
	Disabled, No ESRD	22.7%	23.4%	22.2%	21.6%	1.31 pp
	Dual Eligibility	31.9%	28.8%	28.1%	26.1%	-1.14 pp
	HCC Count	3.0	3.2	3.0	3.1	0.04
	HCC Score	2.0	2.1	2.0	2.0	0.03

Note: See the first page of this appendix for data sources and more information.

Exhibit E.4: Patient Characteristics, Surgical Clinical Episodes, Hospitals, Baseline (April 1, 2013 – October 31, 2017) and Intervention (January 1, 2020 – December 31, 2020)

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
CABG (N=2,303)	Institutional PAC Use	18.3%	16.4%	18.0%	15.3%	0.77 pp
	Home Health	5.7%	4.3%	5.4%	3.9%	0.12 pp
	Age: 80+ Years	13.8%	13.3%	14.3%	10.7%	3.12 pp
	Male	71.2%	74.4%	72.1%	73.1%	2.20 pp
	Disabled, No ESRD	21.2%	16.2%	20.4%	17.2%	-1.86 pp
	Dual Eligibility	11.7%	7.6%	12.0%	9.6%	-1.68 pp
	HCC Count	2.1	2.3	2.0	2.2	0.04
	HCC Score	1.1	1.2	1.1	1.1	0.03
Fractures of the Femur and Hip or Pelvis (N=793)	Institutional PAC Use	28.8%	27.2%	28.3%	28.6%	-1.84 pp
	Home Health	32.2%	29.5%	30.3%	30.2%	-2.70 pp
	Age: 80+ Years	72.1%	71.5%	72.7%	69.6%	2.44 pp
	Male	21.9%	24.3%	22.1%	23.6%	0.91 pp
	Disabled, No ESRD	12.1%	12.0%	12.8%	11.5%	1.12 pp
	Dual Eligibility	15.1%	14.8%	19.2%	18.0%	0.86 pp
	HCC Count	2.3	2.4	2.4	2.5	-0.11
	HCC Score	1.6	1.7	1.7	1.7	-0.02
Hip & Femur Procedures Except Major Joint (N=4,644)	Institutional PAC Use	25.1%	22.6%	25.0%	24.2%	-1.65 pp
	Home Health	23.4%	22.0%	23.1%	22.2%	-0.51 pp
	Age: 80+ Years	63.3%	60.1%	63.0%	61.6%	-1.82 pp
	Male	26.2%	26.6%	26.0%	25.6%	0.86 pp
	Disabled, No ESRD	15.1%	15.1%	14.9%	14.6%	0.38 pp
	Dual Eligibility	18.5%	17.6%	19.1%	18.1%	0.07 pp
	HCC Count	2.1	2.1	2.1	2.2	-0.03
	HCC Score	1.5	1.5	1.5	1.6	-0.02
MJRLE (N=9,581)	Institutional PAC Use	12.3%	10.2%	11.7%	10.1%	-0.49 pp
	Home Health	10.7%	10.2%	10.6%	9.4%	0.59 pp
	Age: 80+ Years	22.5%	22.6%	20.4%	19.7%	0.82 pp
	Male	35.1%	37.1%	35.5%	37.0%	0.41 pp
	Disabled, No ESRD	17.5%	15.2%	18.9%	14.6%	1.87 pp
	Dual Eligibility	12.3%	10.1%	13.7%	10.5%	1.09 pp
	HCC Count	1.3	1.3	1.3	1.3	0.05
	HCC Score	0.9	1.0	0.9	0.9	0.03
Pacemaker (N=1,579)	Institutional PAC Use	30.3%	26.8%	31.3%	29.9%	-2.13 pp
	Home Health	20.9%	17.3%	20.7%	19.1%	-2.08 pp
	Age: 80+ Years	56.8%	51.9%	56.7%	54.5%	-2.62 pp
	Male	47.5%	51.4%	47.6%	47.7%	3.81 pp
	Disabled, No ESRD	12.1%	12.8%	12.6%	11.4%	1.81 pp
	Dual Eligibility	12.4%	9.6%	13.2%	10.4%	-0.01 pp
	HCC Count	2.5	2.6	2.5	2.6	0.12
	HCC Score	1.5	1.6	1.5	1.6	0.05

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
PCI (N=3,018)	Institutional PAC Use	23.2%	20.5%	20.8%	19.2%	-1.11 pp
	Home Health	13.9%	11.1%	10.9%	10.6%	-2.48 pp
	Age: 80+ Years	25.5%	25.2%	26.0%	26.6%	-0.88 pp
	Male	59.0%	61.7%	61.3%	63.0%	0.91 pp
	Disabled, No ESRD	28.1%	24.3%	26.4%	24.0%	-1.33 pp
	Dual Eligibility	19.3%	16.5%	19.5%	17.2%	-0.43 pp
	HCC Count	2.2	2.3	2.2	2.3	-0.09
	HCC Score	1.3	1.4	1.3	1.4	-0.04
PCI (OP) (N=6,417)	Institutional PAC Use	21.3%	19.1%	20.0%	18.8%	-0.92 pp
	Home Health	6.7%	7.2%	7.0%	6.3%	1.14 pp
	Age: 80+ Years	21.0%	23.0%	20.6%	22.5%	0.13 pp
	Male	67.9%	70.2%	67.2%	70.0%	-0.53 pp
	Disabled, No ESRD	21.4%	17.3%	22.4%	18.8%	-0.45 pp
	Dual Eligibility	12.3%	8.5%	14.1%	10.4%	-0.10 pp
	HCC Count	2.2	2.4	2.3	2.5	-0.11
	HCC Score	1.2	1.3	1.2	1.3	-0.06

Note: See the first page of this appendix for data sources and more information.

Exhibit E.5: Patient Characteristics, Medical Clinical Episodes, PGP, Baseline (April 1, 2013 – October 31, 2017) and Intervention (January 1, 2020 – December 31, 2020)

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
AMI (N=5,027)	Institutional PAC Use	33.3%	32.0%	34.6%	34.0%	-0.63 pp
	Home Health	23.1%	21.4%	23.7%	22.5%	-0.49 pp
	Age: 80+ Years	49.8%	47.1%	47.8%	45.1%	0.01 pp
	Male	47.2%	47.2%	47.1%	48.1%	-1.05 pp
	Disabled, No ESRD	22.1%	20.4%	24.5%	23.3%	-0.49 pp
	Dual Eligibility	20.6%	17.5%	22.6%	20.9%	-1.40 pp
	HCC Count	2.9	3.1	3.0	3.2	-0.01
	HCC Score	1.8	1.9	1.8	1.9	-0.02
Cardiac Arrhythmia (N=6,937)	Institutional PAC Use	29.9%	27.8%	30.6%	28.8%	-0.23 pp
	Home Health	19.9%	19.2%	19.9%	19.9%	-0.68 pp
	Age: 80+ Years	43.9%	42.6%	43.6%	42.1%	0.10 pp
	Male	42.6%	43.3%	42.0%	41.5%	1.26 pp
	Disabled, No ESRD	16.8%	16.4%	18.2%	17.7%	-0.01 pp
	Dual Eligibility	15.3%	13.3%	15.6%	13.4%	0.22 pp
	HCC Count	2.6	2.8	2.6	2.8	-0.03
	HCC Score	1.6	1.7	1.6	1.7	-0.01

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
Cellulitis (N=2,402)	Institutional PAC Use	33.9%	35.1%	34.2%	35.9%	0.47 pp
	Home Health	29.3%	30.6%	28.9%	30.7%	-0.55 pp
	Age: 80+ Years	32.8%	33.8%	33.3%	37.4%	-3.06 pp
	Male	47.5%	46.8%	46.2%	48.4%	-2.86 pp
	Disabled, No ESRD	38.6%	36.4%	39.4%	31.8%	5.43 pp
	Dual Eligibility	29.4%	29.1%	28.3%	23.1%	4.85 pp
	HCC Count	2.9	3.2	2.9	3.1	-0.01
	HCC Score	1.9	2.0	1.8	2.0	-0.03
COPD, Bronchitis, & Asthma (N=6,106)	Institutional PAC Use	36.5%	37.2%	37.1%	39.1%	-1.30 pp
	Home Health	24.5%	25.4%	25.1%	25.9%	0.18 pp
	Age: 80+ Years	30.9%	27.4%	28.3%	27.2%	-2.38 pp
	Male	40.6%	40.4%	39.5%	39.9%	-0.64 pp
	Disabled, No ESRD	35.7%	37.1%	39.6%	38.1%	2.96 pp
	Dual Eligibility	30.4%	31.0%	32.0%	30.0%	2.50 pp
	HCC Count	3.2	3.5	3.2	3.6	-0.11
	HCC Score	1.9	2.1	1.9	2.2	-0.07
CHF (N=7,094)	Institutional PAC Use	48.8%	46.3%	48.8%	46.9%	-0.67 pp
	Home Health	33.7%	34.0%	34.1%	34.5%	-0.05 pp
	Age: 80+ Years	53.2%	50.6%	50.9%	50.4%	-1.96 pp
	Male	47.4%	46.3%	45.9%	46.9%	-2.07 pp
	Disabled, No ESRD	22.6%	23.3%	26.4%	24.4%	2.69 pp
	Dual Eligibility	22.1%	20.6%	23.3%	19.4%	2.39 pp
	HCC Count	4.0	4.2	4.1	4.3	0.04
	HCC Score	2.4	2.5	2.4	2.5	0.04
GI Hemorrhage (N=7,589)	Institutional PAC Use	38.2%	37.3%	38.9%	39.1%	-1.04 pp
	Home Health	23.5%	23.0%	24.3%	25.3%	-1.49 pp
	Age: 80+ Years	45.8%	44.9%	46.2%	44.3%	1.02 pp
	Male	46.9%	47.1%	46.2%	47.3%	-0.87 pp
	Disabled, No ESRD	21.7%	20.4%	21.2%	21.1%	-1.13 pp
	Dual Eligibility	22.2%	19.8%	21.6%	20.5%	-1.40 pp
	HCC Count	2.9	3.0	2.9	3.2	-0.18
	HCC Score	1.8	1.9	1.8	2.0	-0.09
GI Obstruction (N=2,799)	Institutional PAC Use	33.9%	32.2%	33.9%	33.5%	-1.31 pp
	Home Health	19.5%	19.5%	20.1%	19.0%	1.15 pp
	Age: 80+ Years	37.3%	35.8%	35.8%	34.2%	0.14 pp
	Male	42.3%	41.8%	42.8%	44.2%	-1.95 pp
	Disabled, No ESRD	26.7%	25.9%	28.0%	27.0%	0.25 pp
	Dual Eligibility	23.2%	21.7%	22.0%	19.2%	1.30 pp
	HCC Count	2.5	2.7	2.6	2.8	-0.03
	HCC Score	1.7	1.8	1.7	1.8	0.03

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
Renal Failure (N=6,543)	Institutional PAC Use	42.1%	43.3%	43.1%	44.2%	0.09 pp
	Home Health	31.1%	31.3%	30.9%	33.7%	-2.62 pp
	Age: 80+ Years	44.4%	42.7%	42.2%	41.6%	-1.09 pp
	Male	47.0%	49.2%	45.2%	45.7%	1.63 pp
	Disabled, No ESRD	27.6%	27.6%	29.3%	26.2%	3.04 pp
	Dual Eligibility	28.3%	26.9%	26.8%	24.5%	0.81 pp
	HCC Count	3.4	3.7	3.4	3.8	-0.03
	HCC Score	2.1	2.3	2.1	2.4	-0.03
Sepsis (N=32,017)	Institutional PAC Use	39.9%	38.1%	42.9%	41.3%	-0.31 pp
	Home Health	27.2%	26.0%	25.9%	25.4%	-0.58 pp
	Age: 80+ Years	40.9%	37.6%	39.2%	38.1%	-2.20 pp
	Male	46.7%	48.1%	46.2%	48.6%	-0.98 pp
	Disabled, No ESRD	29.1%	29.1%	31.4%	29.4%	1.90 pp
	Dual Eligibility	28.8%	27.8%	30.2%	28.6%	0.57 pp
	HCC Count	3.2	3.3	3.4	3.5	0.02
	HCC Score	2.1	2.2	2.2	2.3	0.02
SPRI (N=24,023)	Institutional PAC Use	37.2%	31.2%	38.1%	30.5%	1.67 pp
	Home Health	27.2%	21.3%	27.8%	21.2%	0.68 pp
	Age: 80+ Years	48.7%	40.3%	47.4%	40.4%	-1.36 pp
	Male	47.5%	48.2%	46.0%	47.9%	-1.21 pp
	Disabled, No ESRD	25.3%	26.1%	26.2%	24.4%	2.68 pp
	Dual Eligibility	26.0%	26.3%	26.0%	22.5%	3.84 pp
	HCC Count	3.0	2.8	3.0	2.7	0.09
	HCC Score	2.0	1.8	2.0	1.8	0.05
Stroke (N=5,586)	Institutional PAC Use	23.1%	22.1%	23.7%	22.4%	0.36 pp
	Home Health	20.0%	17.9%	19.8%	18.3%	-0.66 pp
	Age: 80+ Years	46.8%	45.3%	47.7%	46.0%	0.13 pp
	Male	45.1%	46.5%	44.4%	45.5%	0.25 pp
	Disabled, No ESRD	17.3%	15.8%	17.4%	17.2%	-1.22 pp
	Dual Eligibility	17.5%	14.3%	15.2%	15.1%	-3.17 pp
	HCC Count	2.0	2.1	2.1	2.2	-0.01
	HCC Score	1.4	1.4	1.4	1.4	-0.02
Urinary Tract Infection (N=6,582)	Institutional PAC Use	40.2%	39.9%	41.7%	40.6%	0.84 pp
	Home Health	37.1%	36.2%	38.9%	36.9%	1.10 pp
	Age: 80+ Years	56.4%	55.3%	56.4%	55.1%	0.17 pp
	Male	26.8%	27.0%	26.5%	26.8%	-0.11 pp
	Disabled, No ESRD	20.9%	21.4%	20.8%	19.4%	1.91 pp
	Dual Eligibility	26.2%	24.8%	25.3%	21.9%	2.06 pp
	HCC Count	2.8	3.0	2.9	3.1	-0.08
	HCC Score	1.9	2.0	1.9	2.0	-0.01

Note: See the first page of this appendix for data sources and more information.

Exhibit E.6: Patient Characteristics, Surgical Clinical Episodes, PGP, Baseline (April 1, 2013 – October 31, 2017) and Intervention (January 1, 2020 – December 31, 2020)

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
Hip & Femur Procedures Except Major Joint (N=9,399)	Institutional PAC Use	25.0%	23.1%	24.5%	22.5%	0.11 pp
	Home Health	23.9%	22.9%	23.8%	22.0%	0.82 pp
	Age: 80+ Years	62.9%	59.5%	62.9%	59.5%	-0.07 pp
	Male	25.6%	27.3%	26.2%	27.2%	0.69 pp
	Disabled, No ESRD	14.4%	15.1%	14.6%	14.4%	0.95 pp
	Dual Eligibility	17.3%	16.2%	17.6%	16.5%	-0.01 pp
	HCC Count	2.0	2.1	2.0	2.1	0.06
	HCC Score	1.5	1.5	1.5	1.5	0.02
MJRLE (N=30,948)	Institutional PAC Use	11.7%	9.6%	11.4%	9.5%	-0.18 pp
	Home Health	9.6%	8.4%	9.0%	9.2%	-1.43 pp
	Age: 80+ Years	23.1%	23.2%	22.8%	23.3%	-0.38 pp
	Male	35.8%	36.4%	35.9%	37.4%	-0.91 pp
	Disabled, No ESRD	15.6%	12.6%	15.6%	13.4%	-0.76 pp
	Dual Eligibility	9.9%	7.6%	9.5%	8.1%	-0.96 pp
	HCC Count	1.2	1.2	1.2	1.3	0.00
	HCC Score	0.9	0.9	0.9	0.9	-0.01
MJRUE (N=4,527)	Institutional PAC Use	12.8%	10.2%	13.4%	9.7%	1.10 pp
	Home Health	9.0%	7.0%	9.2%	7.8%	-0.58 pp
	Age: 80+ Years	20.3%	17.3%	19.1%	16.5%	-0.50 pp
	Male	37.1%	40.8%	38.2%	41.3%	0.58 pp
	Disabled, No ESRD	19.4%	16.4%	19.1%	16.7%	-0.59 pp
	Dual Eligibility	8.6%	6.1%	8.3%	5.5%	0.33 pp
	HCC Count	1.3	1.3	1.3	1.3	0.01
	HCC Score	0.9	0.9	0.9	1.0	-0.01
PCI (N=3,594)	Institutional PAC Use	21.0%	18.1%	20.8%	18.1%	-0.19 pp
	Home Health	12.9%	10.9%	11.2%	10.6%	-1.43 pp
	Age: 80+ Years	26.9%	26.6%	26.8%	25.6%	0.86 pp
	Male	60.2%	61.5%	60.0%	62.4%	-1.03 pp
	Disabled, No ESRD	25.5%	22.9%	26.9%	22.8%	1.43 pp
	Dual Eligibility	17.4%	14.3%	16.8%	12.4%	1.38 pp
	HCC Count	2.1	2.2	2.2	2.2	0.07
	HCC Score	1.3	1.3	1.3	1.3	0.03
Spinal Fusion (N=6,092)	Institutional PAC Use	11.4%	9.5%	12.8%	10.8%	0.00 pp
	Home Health	6.8%	6.8%	7.9%	8.6%	-0.67 pp
	Age: 80+ Years	10.4%	11.0%	10.5%	11.5%	-0.43 pp
	Male	43.5%	45.5%	43.5%	46.8%	-1.28 pp
	Disabled, No ESRD	28.2%	21.0%	28.5%	23.4%	-2.04 pp
	Dual Eligibility	11.5%	7.7%	12.9%	9.7%	-0.63 pp
	HCC Count	1.4	1.4	1.5	1.6	-0.08
	HCC Score	0.9	1.0	1.0	1.1	-0.05

Note: See the first page of this appendix for data sources and more information.

C. Beneficiary Race and Ethnicity

Exhibit E.7: Beneficiary Race and Ethnicity, Medical Clinical Episodes, Hospitals, Baseline (April 1, 2013 – October 31, 2017) and Intervention (January 1, 2020 – December 31, 2020)

Clinical Episodes	Beneficiary Race Categories	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
AMI (N=9,544)	Asian/Pacific Islander	1.6%	1.6%	2.0%	2.0%	0.06 pp
	Black or African American	12.0%	11.8%	11.4%	12.3%	-1.10 pp
	Hispanic	6.8%	7.3%	6.1%	6.4%	0.21 pp
	American Indian/Alaska Native	0.2%	0.3%	0.5%	0.6%	0.02 pp
	Other	0.5%	0.6%	0.6%	0.7%	0.03 pp
	Non-Hispanic White	78.6%	77.7%	79.1%	77.1%	1.09 pp
Cardiac Arrhythmia (N=14,504)	Asian/Pacific Islander	1.2%	1.2%	1.2%	1.3%	-0.21 pp
	Black or African American	8.3%	7.2%	9.0%	7.5%	0.40 pp
	Hispanic	4.6%	4.0%	3.5%	3.2%	-0.35 pp
	American Indian/Alaska Native	0.2%	0.2%	0.2%	0.2%	0.05 pp
	Other	0.5%	0.5%	0.5%	0.7%	-0.18 pp
	Non-Hispanic White	84.7%	85.7%	85.2%	85.8%	0.43 pp
COPD, Bronchitis, & Asthma (N=13,031)	Asian/Pacific Islander	1.3%	1.4%	1.5%	1.7%	-0.09 pp
	Black or African American	13.0%	12.7%	11.4%	10.9%	0.17 pp
	Hispanic	7.9%	6.6%	5.4%	5.3%	-1.21 pp
	American Indian/Alaska Native	0.3%	0.3%	0.4%	0.4%	0.02 pp
	Other	0.4%	0.5%	0.5%	0.6%	-0.07 pp
	Non-Hispanic White	76.8%	77.9%	80.4%	80.3%	1.21 pp
CHF (N=21,376)	Asian/Pacific Islander	1.8%	1.9%	1.6%	1.5%	0.15 pp
	Black or African American	14.5%	13.0%	15.0%	13.3%	0.23 pp
	Hispanic	5.1%	4.7%	5.2%	5.3%	-0.56 pp
	American Indian/Alaska Native	0.3%	0.3%	0.3%	0.3%	0.03 pp
	Other	0.5%	0.6%	0.5%	0.6%	-0.08 pp
	Non-Hispanic White	77.5%	78.9%	77.2%	78.4%	0.26 pp
GI Hemorrhage (N=9,008)	Asian/Pacific Islander	1.7%	1.8%	2.9%	3.3%	-0.34 pp
	Black or African American	15.0%	13.2%	14.5%	13.2%	-0.42 pp
	Hispanic	5.4%	5.1%	5.0%	4.8%	-0.14 pp
	American Indian/Alaska Native	0.3%	0.4%	0.2%	0.2%	0.19 pp
	Other	0.5%	0.6%	0.8%	0.9%	-0.10 pp
	Non-Hispanic White	76.8%	78.1%	76.3%	76.6%	1.00 pp

Clinical Episodes	Beneficiary Race Categories	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
Renal Failure (N=13,548)	Asian/Pacific Islander	1.9%	2.0%	1.7%	1.7%	-0.04 pp
	Black or African American	18.1%	16.1%	18.9%	16.4%	0.59 pp
	Hispanic	6.6%	6.4%	4.7%	4.9%	-0.49 pp
	American Indian/Alaska Native	0.4%	0.3%	0.5%	0.4%	0.01 pp
	Other	0.5%	0.6%	0.5%	0.6%	0.00 pp
	Non-Hispanic White	72.1%	73.8%	73.5%	75.2%	-0.07 pp
Sepsis (N=83,563)	Asian/Pacific Islander	2.2%	2.3%	2.9%	3.2%	-0.15 pp
	Black or African American	11.6%	12.1%	11.0%	11.3%	0.16 pp
	Hispanic	5.9%	6.5%	5.9%	6.4%	0.12 pp
	American Indian/Alaska Native	0.5%	0.5%	0.6%	0.8%	-0.13 pp
	Other	0.6%	0.7%	0.7%	0.7%	0.05 pp
	Non-Hispanic White	78.8%	76.9%	78.4%	76.7%	-0.05 pp
SPRI (N=44,403)	Asian/Pacific Islander	1.9%	2.1%	2.4%	2.8%	-0.19 pp
	Black or African American	8.8%	12.0%	7.9%	10.0%	1.09 pp
	Hispanic	5.8%	7.4%	5.4%	7.8%	-0.76 pp
	American Indian/Alaska Native	0.4%	0.5%	0.5%	0.8%	-0.12 pp
	Other	0.5%	0.7%	0.5%	0.8%	-0.13 pp
	Non-Hispanic White	82.2%	76.3%	82.9%	76.9%	0.09 pp
Stroke (N=17,088)	Asian/Pacific Islander	2.2%	2.7%	2.1%	2.2%	0.42 pp
	Black or African American	14.0%	12.5%	14.2%	12.6%	0.14 pp
	Hispanic	5.7%	5.3%	4.7%	4.9%	-0.53 pp
	American Indian/Alaska Native	0.4%	0.5%	0.4%	0.4%	0.07 pp
	Other	0.6%	0.7%	0.6%	0.6%	0.10 pp
	Non-Hispanic White	76.7%	77.3%	77.5%	78.4%	-0.18 pp
UTI (N=11,416)	Asian/Pacific Islander	1.8%	2.0%	1.7%	1.8%	0.10 pp
	Black or African American	12.1%	10.3%	11.0%	9.2%	-0.11 pp
	Hispanic	7.6%	6.4%	5.0%	5.1%	-1.32 pp
	American Indian/Alaska Native	0.4%	0.4%	0.2%	0.2%	0.03 pp
	Other	0.6%	0.5%	0.5%	0.5%	-0.08 pp
	Non-Hispanic White	77.3%	79.7%	81.4%	82.5%	1.31 pp

Note: The race and ethnicity data come from the RTI race codes from the MBSF. See the first page of this appendix for additional information on data sources and other details.

Exhibit E.8: Beneficiary Race and Ethnicity, Surgical Clinical Episodes, Hospitals, Baseline (April 1, 2013 – October 31, 2017) and Intervention (January 1, 2020 – December 31, 2020)

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
CABG (N=2,303)	Asian/Pacific Islander	2.2%	1.8%	1.5%	1.6%	-0.45 pp
	Black or African American	7.2%	5.3%	6.6%	4.6%	0.11 pp
	Hispanic	3.9%	3.3%	7.6%	6.3%	0.70 pp
	American Indian/Alaska Native	0.4%	0.3%	0.3%	0.1%	0.14 pp
	Other	0.8%	0.7%	0.7%	0.7%	-0.20 pp
	Non-Hispanic White	84.4%	86.4%	82.3%	84.3%	-0.06 pp
Fractures of the Femur and Hip or Pelvis (N=793)	Asian/Pacific Islander	1.8%	1.1%	1.6%	1.1%	-0.19 pp
	Black or African American	3.2%	2.3%	4.2%	3.8%	-0.62 pp
	Hispanic	3.5%	3.9%	3.4%	3.3%	0.52 pp
	American Indian/Alaska Native	0.4%	0.9%	0.3%	0.7%	0.09 pp
	Other	0.3%	0.3%	0.4%	1.0%	-0.63 pp
	Non-Hispanic White	90.7%	91.6%	90.0%	89.6%	1.20 pp
Hip & Femur Procedures Except Major Joint (N=4,644)	Asian/Pacific Islander	1.4%	1.5%	1.4%	1.4%	0.18 pp
	Black or African American	3.1%	2.6%	3.2%	3.0%	-0.19 pp
	Hispanic	4.3%	4.1%	3.9%	3.5%	0.12 pp
	American Indian/Alaska Native	0.3%	0.3%	0.5%	0.3%	0.17 pp
	Other	0.4%	0.4%	0.5%	0.4%	0.11 pp
	Non-Hispanic White	90.2%	90.4%	90.2%	90.6%	-0.23 pp
MJRLE (N=9,581)	Asian/Pacific Islander	1.6%	1.7%	0.8%	0.8%	0.16 pp
	Black or African American	6.6%	5.0%	7.9%	6.5%	-0.12 pp
	Hispanic	4.4%	3.8%	3.6%	3.3%	-0.30 pp
	American Indian/Alaska Native	1.0%	1.1%	0.4%	0.4%	0.14 pp
	Other	0.5%	0.5%	0.6%	0.5%	0.02 pp
	Non-Hispanic White	84.9%	85.7%	85.4%	85.7%	0.56 pp
Pacemaker (N=1,579)	Asian/Pacific Islander	1.1%	1.4%	1.2%	1.6%	-0.09 pp
	Black or African American	5.1%	5.3%	5.4%	3.7%	1.89 pp
	Hispanic	3.0%	3.2%	4.7%	5.3%	-0.38 pp
	American Indian/Alaska Native	0.3%	0.4%	0.2%	0.0%	0.10 pp
	Other	0.6%	0.5%	0.5%	0.8%	-0.37 pp
	Non-Hispanic White	89.5%	88.0%	87.5%	87.3%	-1.30 pp
PCI (N=3,018)	Asian/Pacific Islander	2.0%	1.7%	1.9%	1.7%	-0.17 pp
	Black or African American	15.0%	12.0%	9.6%	7.5%	-0.91 pp

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
	Hispanic	4.5%	4.0%	7.9%	7.3%	0.08 pp
	American Indian/Alaska Native	0.4%	0.5%	0.9%	0.6%	0.32 pp
	Other	0.7%	0.7%	0.5%	0.6%	-0.13 pp
	Non-Hispanic White	76.7%	79.1%	78.5%	80.7%	0.23 pp
PCI (OP) (N=6,417)	Asian/Pacific Islander	2.8%	2.4%	1.9%	1.6%	-0.22 pp
	Black or African American	5.7%	4.3%	4.8%	4.1%	-0.63 pp
	Hispanic	4.0%	3.2%	5.4%	4.9%	-0.28 pp
	American Indian/Alaska Native	0.2%	0.3%	0.9%	0.9%	0.01 pp
	Other	0.9%	0.7%	0.6%	0.7%	-0.21 pp
	Non-Hispanic White	85.3%	86.7%	85.6%	86.2%	0.87 pp

Note: The race and ethnicity data come from the RTI race codes from the MBSF. See the first page of this appendix for additional information on data sources and other details.

Exhibit E.9: Beneficiary Race and Ethnicity, Medical Clinical Episodes, PGP, Baseline (April 1, 2013 – October 31, 2017) and Intervention (January 1, 2020 – December 31, 2020)

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
AMI (N=5,027)	Asian/Pacific Islander	1.6%	1.5%	1.4%	1.6%	-0.31 pp
	Black or African American	8.5%	9.0%	8.2%	7.6%	1.11 pp
	Hispanic	7.0%	5.9%	4.1%	3.9%	-0.83 pp
	American Indian/Alaska Native	0.5%	0.8%	0.5%	0.6%	0.17 pp
	Other	0.4%	0.7%	0.6%	0.7%	0.18 pp
	Non-Hispanic White	81.5%	81.4%	85.0%	85.0%	-0.07 pp
Cardiac Arrhythmia (N=6,937)	Asian/Pacific Islander	1.4%	1.0%	0.8%	0.7%	-0.27 pp
	Black or African American	5.7%	6.2%	7.9%	6.6%	1.89 pp
	Hispanic	4.7%	3.3%	1.9%	1.6%	-1.05 pp
	American Indian/Alaska Native	0.3%	0.3%	0.6%	0.6%	0.06 pp
	Other	0.4%	0.5%	0.3%	0.3%	0.07 pp
	Non-Hispanic White	87.0%	87.6%	88.1%	89.1%	-0.39 pp
Cellulitis (N=2,402)	Asian/Pacific Islander	1.0%	0.8%	0.6%	0.7%	-0.36 pp
	Black or African American	5.3%	5.7%	6.7%	5.3%	1.71 pp
	Hispanic	6.7%	5.3%	4.0%	3.3%	-0.64 pp
	American Indian/Alaska Native	0.7%	0.4%	1.1%	0.8%	0.08 pp
	Other	0.6%	0.6%	0.5%	0.3%	0.16 pp
	Non-Hispanic White	85.2%	86.1%	86.6%	88.6%	-1.01 pp

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
COPD, Bronchitis, Asthma (N=6,106)	Asian/Pacific Islander	1.6%	1.5%	0.6%	0.7%	-0.08 pp
	Black or African American	8.8%	8.9%	10.4%	8.9%	1.64 pp
	Hispanic	5.5%	4.2%	3.0%	3.4%	-1.64 pp
	American Indian/Alaska Native	0.5%	0.5%	0.8%	1.0%	-0.15 pp
	Other	0.4%	0.5%	0.3%	0.4%	0.01 pp
	Non-Hispanic White	82.9%	83.6%	84.6%	85.2%	0.09 pp
CHF (N=9,363)	Asian/Pacific Islander	1.7%	1.3%	0.7%	1.0%	-0.70 pp
	Black or African American	9.2%	11.5%	14.7%	12.3%	4.62 pp
	Hispanic	5.4%	4.7%	2.7%	3.0%	-0.99 pp
	American Indian/Alaska Native	0.5%	0.5%	0.4%	0.4%	-0.08 pp
	Other	0.5%	0.5%	0.4%	0.4%	0.03 pp
	Non-Hispanic White	82.3%	80.9%	80.9%	82.4%	-2.88 pp
GI Hemorrhage (N=7,589)	Asian/Pacific Islander	2.4%	2.3%	1.4%	1.3%	-0.06 pp
	Black or African American	9.4%	9.5%	12.0%	10.9%	1.24 pp
	Hispanic	7.0%	5.6%	3.9%	4.5%	-1.97 pp
	American Indian/Alaska Native	0.7%	0.8%	0.5%	0.5%	0.16 pp
	Other	0.5%	0.6%	0.6%	0.4%	0.23 pp
	Non-Hispanic White	79.7%	80.4%	81.2%	81.4%	0.59 pp
GI Obstruction (N=2,799)	Asian/Pacific Islander	1.8%	2.3%	1.0%	1.0%	0.49 pp
	Black or African American	8.4%	9.3%	9.3%	7.6%	2.52 pp
	Hispanic	7.8%	5.3%	5.2%	4.4%	-1.83 pp
	American Indian/Alaska Native	0.6%	0.5%	0.5%	0.6%	-0.21 pp
	Other	0.6%	1.0%	0.5%	0.5%	0.50 pp
	Non-Hispanic White	80.3%	80.7%	83.0%	85.0%	-1.65 pp
Renal Failure (N=6,543)	Asian/Pacific Islander	2.1%	2.2%	1.1%	1.2%	-0.06 pp
	Black or African American	13.3%	14.6%	15.8%	13.3%	3.78 pp
	Hispanic	7.7%	5.6%	3.4%	4.0%	-2.77 pp
	American Indian/Alaska Native	0.7%	0.5%	0.6%	0.6%	-0.10 pp
	Other	0.6%	0.6%	0.4%	0.4%	0.05 pp
	Non-Hispanic White	75.3%	75.7%	78.3%	79.8%	-1.07 pp
Sepsis (N=32,017)	Asian/Pacific Islander	2.0%	1.8%	1.4%	2.1%	-0.88 pp
	Black or African American	7.2%	9.6%	7.9%	7.9%	2.42 pp
	Hispanic	7.2%	6.2%	4.2%	5.7%	-2.55 pp

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
	American Indian/Alaska Native	0.6%	0.6%	0.6%	0.8%	-0.20 pp
	Other	0.5%	0.7%	0.5%	0.7%	-0.09 pp
	Non-Hispanic White	82.0%	80.2%	85.0%	81.8%	1.46 pp
SPRI (N=24,023)	Asian/Pacific Islander	2.4%	2.1%	1.0%	1.1%	-0.38 pp
	Black or African American	6.5%	9.1%	7.7%	8.9%	1.35 pp
	Hispanic	6.8%	6.8%	4.3%	5.2%	-0.88 pp
	American Indian/Alaska Native	0.5%	0.8%	1.4%	1.9%	-0.21 pp
	Other	0.6%	0.7%	0.5%	0.6%	0.00 pp
	Non-Hispanic White	82.8%	79.7%	84.9%	81.6%	0.18 pp
	Stroke (N=5,586)	Asian/Pacific Islander	2.2%	2.4%	1.8%	2.0%
Black or African American	9.9%	8.6%	9.9%	9.1%	-0.57 pp	
Hispanic	7.4%	5.9%	3.5%	3.3%	-1.36 pp	
American Indian/Alaska Native	0.5%	0.6%	0.2%	0.3%	0.00 pp	
Other	0.7%	0.8%	0.6%	0.7%	-0.05 pp	
Non-Hispanic White	78.9%	80.8%	83.6%	83.6%	1.83 pp	
UTI (N=6,582)	Asian/Pacific Islander	1.7%	1.8%	1.1%	1.1%	0.11 pp
	Black or African American	8.8%	8.1%	8.8%	5.9%	2.24 pp
	Hispanic	7.3%	4.8%	4.3%	3.5%	-1.68 pp
	American Indian/Alaska Native	0.5%	0.9%	0.7%	0.5%	0.55 pp
	Other	0.5%	0.8%	0.4%	0.6%	0.06 pp
	Non-Hispanic White	81.0%	83.1%	84.5%	87.8%	-1.21 pp

Note: The race and ethnicity data come from the RTI race codes from the MBSF. See the first page of this appendix for additional information on data sources and other details.

Exhibit E.10: Beneficiary Race and Ethnicity, Surgical Clinical Episodes, PGP, Baseline (April 1, 2013 – October 31, 2017) and Intervention (January 1, 2020 – December 31, 2020)

Clinical Episodes	Patient Characteristics	BPCI Advanced		Comparison Group		Relative Change
		Baseline Mean	MY3 Mean	Baseline Mean	MY3 Mean	
Hip & Femur Procedures Except Major Joint (N=9,399)	Asian/Pacific Islander	0.9%	0.8%	1.2%	1.4%	-0.22 pp
	Black or African American	2.7%	3.0%	3.1%	2.7%	0.58 pp
	Hispanic	3.4%	3.1%	3.9%	3.5%	0.00 pp
	American Indian/Alaska Native	0.3%	0.4%	0.6%	0.8%	-0.15 pp
	Other	0.4%	0.4%	0.4%	0.5%	-0.07 pp
	Non-Hispanic White	92.0%	91.8%	90.5%	90.3%	0.14 pp
MJRLE (N=30,948)	Asian/Pacific Islander	0.8%	0.9%	0.9%	0.9%	0.07 pp
	Black or African American	5.1%	3.9%	5.3%	4.2%	-0.04 pp
	Hispanic	3.5%	3.1%	2.4%	2.8%	-0.75 pp
	American Indian/Alaska Native	0.5%	0.5%	0.2%	0.2%	0.02 pp
	Other	0.5%	0.5%	0.5%	0.5%	0.02 pp
	Non-Hispanic White	88.7%	89.1%	89.6%	89.3%	0.64 pp
MJRUE (N=4,527)	Asian/Pacific Islander	0.4%	0.6%	0.6%	0.6%	0.31 pp
	Black or African American	2.8%	2.1%	3.3%	2.4%	0.12 pp
	Hispanic	2.2%	2.4%	2.1%	2.0%	0.26 pp
	American Indian/Alaska Native	0.6%	0.6%	0.3%	0.4%	-0.20 pp
	Other	0.4%	0.6%	0.4%	0.4%	0.16 pp
	Non-Hispanic White	92.8%	91.8%	92.1%	91.6%	-0.36 pp
PCI (N=3,594)	Asian/Pacific Islander	1.2%	1.2%	0.8%	0.8%	0.01 pp
	Black or African American	7.1%	6.2%	6.7%	5.0%	0.86 pp
	Hispanic	6.0%	5.0%	3.3%	2.5%	-0.27 pp
	American Indian/Alaska Native	0.4%	0.5%	0.2%	0.2%	0.12 pp
	Other	0.6%	0.5%	0.4%	0.3%	-0.03 pp
	Non-Hispanic White	84.0%	84.9%	88.2%	89.8%	-0.68 pp
Spinal Fusion (N=6,092)	Asian/Pacific Islander	1.1%	1.0%	1.0%	0.9%	-0.01 pp
	Black or African American	5.3%	4.9%	5.6%	4.2%	0.95 pp
	Hispanic	3.6%	3.5%	3.3%	2.7%	0.54 pp
	American Indian/Alaska Native	0.3%	0.44%	0.3%	0.3%	0.10 pp
	Other	0.6%	0.6%	0.5%	0.6%	-0.03 pp
	Non-Hispanic White	88.2%	87.3%	88.3%	88.8%	-1.43 pp

Note: The race and ethnicity data come from the RTI race codes from the MBSF. See the first page of this appendix for additional information on data sources and other details.

Appendix F: Tables of Impact of BPCI Advanced on Claims-based Payment, Utilization, and Quality Measures Results

The following tables display the risk-adjusted difference-in-differences (DiD) results for all claims-based payment, utilization, and quality measures assessed in this report. Medicare payments were standardized to remove the effects of geographic differences in wages, extra amounts to account for teaching programs and other policy factors. Total allowed payments are Medicare Parts A and B payments that include beneficiary cost sharing, while total paid payments exclude beneficiary cost sharing. The “DiD as a Percent” refers to the DiD estimate as a percentage of the BPCI Advanced baseline mean. We only calculate proportion of episodes first discharged to institutional PAC setting and number of days in SNF for inpatient clinical episodes. Blank cells indicate there was not sufficient sample to produce a DiD estimate. All results are based on the BPCI Advanced evaluation team’s analysis of Medicare claims and enrollment data for episodes with anchor stays or procedures beginning April 1, 2013 and ending on or before December 31, 2017 (baseline period) and episodes with anchor stays or procedures beginning January 1, 2020 and ending on or before December 31, 2020 (Model Year 3) for BPCI Advanced episode initiators and matched comparison providers. We use a “‡” symbol to denote results where we reject the null hypothesis that BPCI Advanced and matched comparison providers had parallel trends in the baseline period for this outcome at the 10% level of significance.

Please refer to the following abbreviations, which are used throughout this appendix:

- AMI = acute myocardial infarction
- CHF = congestive heart failure
- COPD = chronic obstructive pulmonary disease
- DiD = difference-in-differences
- GI = gastrointestinal
- HH = home health
- IRF = inpatient rehabilitation facility
- LCI = lower confidence interval
- MJRLE = major joint replacement of the lower extremity
- MY = model year
- OP = outpatient
- PAC = post-acute care
- PCI = percutaneous coronary intervention
- PDP = post-discharge period following the anchor stay or procedure
- PP = percentage point
- SNF = skilled nursing facility
- SPRI = simple pneumonia and respiratory infections
- UCI = upper confidence interval
- UTI = urinary tract infection

A. Pooled Estimates

Exhibit F.1: Impact of BPCI Advanced on Total Allowed Payments Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	397,625	\$26,968	\$26,340	368,486	\$26,629	\$27,030	-\$1,028 ‡	-3.8%	<0.001	-\$1,205	-\$852	-\$1,239	-\$818
Medical	318,743	\$25,973	\$25,969	303,043	\$25,651	\$26,443	-\$796 ‡	-3.1%	<0.001	-\$974	-\$619	-\$1,008	-\$585
Hospital	217,564	\$26,433	\$26,536	224,595	\$26,142	\$27,002	-\$756 ‡	-2.9%	<0.001	-\$950	-\$563	-\$988	-\$525
PGP	101,179	\$24,388	\$24,536	78,448	\$24,137	\$24,951	-\$667	-2.7%	0.002	-\$1,025	-\$310	-\$1,094	-\$241
Surgical	78,882	\$31,040	\$28,127	65,443	\$30,642	\$29,529	-\$1,800	-5.8%	<0.001	-\$2,149	-\$1,451	-\$2,216	-\$1,384
Hospital	26,309	\$30,810	\$29,535	25,034	\$30,246	\$29,904	-\$933	-3.0%	0.011	-\$1,534	-\$331	-\$1,649	-\$216
PGP	52,573	\$31,177	\$27,489	40,409	\$30,875	\$29,333	-\$2,147	-6.9%	<0.001	-\$2,552	-\$1,741	-\$2,630	-\$1,663

Note: See the first page of this appendix for data sources and more information.

Exhibit F.2: Impact of BPCI Advanced on Total Paid Payments Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	397,625	\$23,737	\$23,203	368,486	\$23,432	\$23,811	-\$913 ‡	-3.8%	<0.001	-\$1,079	-\$746	-\$1,111	-\$715
Medical	318,743	\$22,760	\$22,865	303,043	\$22,475	\$23,259	-\$679 ‡	-3.0%	<0.001	-\$839	-\$518	-\$870	-\$487
Hospital	217,564	\$23,169	\$23,390	224,595	\$22,915	\$23,763	-\$626 ‡	-2.7%	<0.001	-\$802	-\$451	-\$836	-\$417
PGP	101,179	\$21,355	\$21,536	78,448	\$21,119	\$21,905	-\$605	-2.8%	0.002	-\$926	-\$283	-\$988	-\$221
Surgical	78,882	\$27,741	\$24,865	65,443	\$27,352	\$26,156	-\$1,680	-6.1%	<0.001	-\$2,027	-\$1,334	-\$2,094	-\$1,267
Hospital	26,309	\$27,428	\$26,154	25,034	\$26,893	\$26,488	-\$869	-3.2%	0.016	-\$1,460	-\$279	-\$1,573	-\$165
PGP	52,573	\$27,925	\$24,284	40,409	\$27,626	\$25,980	-\$1,995	-7.1%	<0.001	-\$2,400	-\$1,590	-\$2,478	-\$1,512

Note: See the first page of this appendix for data sources and more information.

Exhibit F.3: Impact of BPCI Advanced on SNF Payments Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	397,625	\$5,384	\$4,378	368,486	\$5,217	\$4,704	-\$494 ‡	-9.2%	<0.001	-\$603	-\$384	-\$624	-\$363
Medical	318,743	\$5,241	\$4,555	303,043	\$5,055	\$4,821	-\$452 ‡	-8.6%	<0.001	-\$564	-\$341	-\$585	-\$320
Hospital	217,564	\$5,393	\$4,701	224,595	\$5,198	\$4,986	-\$481	-8.9%	<0.001	-\$607	-\$354	-\$632	-\$329
PGP	101,179	\$4,703	\$4,186	78,448	\$4,628	\$4,394	-\$282	-6.0%	0.024	-\$488	-\$76	-\$527	-\$37
Surgical	78,882	\$5,937	\$3,781	65,443	\$5,886	\$4,262	-\$533	-9.0%	<0.001	-\$756	-\$309	-\$799	-\$266
Hospital	26,309	\$5,564	\$3,860	25,034	\$5,524	\$4,147	-\$328	-5.9%	0.147	-\$701	\$44	-\$772	\$116
PGP	52,573	\$6,149	\$3,794	40,409	\$6,108	\$4,367	-\$615	-10.0%	<0.001	-\$898	-\$331	-\$953	-\$277

Note: See the first page of this appendix for data sources and more information.

Exhibit F.4: Impact of BPCI Advanced on IRF Payments Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	397,625	\$1,153	\$1,186	368,486	\$1,129	\$1,396	-\$234	-20.3%	<0.001	-\$294	-\$173	-\$306	-\$162
Medical	318,743	\$1,015	\$1,168	303,043	\$1,014	\$1,277	-\$109	-10.8%	<0.001	-\$163	-\$55	-\$174	-\$45
Hospital	217,564	\$1,081	\$1,229	224,595	\$1,104	\$1,388	-\$136	-12.6%	<0.001	-\$199	-\$73	-\$212	-\$61
PGP	101,179	\$805	\$986	78,448	\$728	\$942	-\$33	-4.1%	0.536	-\$120	\$54	-\$137	\$71
Surgical	78,882	\$1,711	\$1,300	65,443	\$1,595	\$1,939	-\$754	-44.1%	<0.001	-\$935	-\$574	-\$969	-\$539
Hospital	26,309	\$1,764	\$1,684	25,034	\$1,530	\$1,852	-\$402	-22.8%	0.008	-\$652	-\$151	-\$700	-\$103
PGP	52,573	\$1,704	\$1,149	40,409	\$1,606	\$1,962	-\$911	-53.5%	<0.001	-\$1,157	-\$665	-\$1,204	-\$618

Note: See the first page of this appendix for data sources and more information.

Exhibit F.5: Impact of BPCI Advanced on HH Payments Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	397,625	\$1,340	\$1,350	368,486	\$1,312	\$1,365	-\$42 ‡	-3.2%	0.007	-\$68	-\$17	-\$73	-\$12
Medical	318,743	\$1,242	\$1,352	303,043	\$1,214	\$1,317	\$8	0.6%	0.508	-\$11	\$26	-\$15	\$30
Hospital	217,564	\$1,255	\$1,361	224,595	\$1,230	\$1,332	\$3	0.2%	0.808	-\$17	\$23	-\$21	\$27
PGP	101,179	\$1,198	\$1,314	78,448	\$1,165	\$1,267	\$14	1.2%	0.576	-\$28	\$56	-\$36	\$64
Surgical	78,882	\$1,746	\$1,390	65,443	\$1,704	\$1,576	-\$228	-13.0%	<0.001	-\$308	-\$147	-\$324	-\$131
Hospital	26,309	\$1,463	\$1,413	25,034	\$1,445	\$1,416	-\$21	-1.4%	0.644	-\$95	\$53	-\$109	\$67
PGP	52,573	\$1,911	\$1,397	40,409	\$1,865	\$1,684	-\$332	-17.4%	<0.001	-\$442	-\$222	-\$463	-\$201

Note: See the first page of this appendix for data sources and more information.

Exhibit F.6: Impact of BPCI Advanced on Readmissions Payments Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	397,625	\$3,688	\$3,718	368,486	\$3,667	\$3,752	-\$55 ‡	-1.5%	0.045	-\$100	-\$10	-\$109	-\$1
Medical	318,743	\$4,130	\$4,191	303,043	\$4,118	\$4,225	-\$46 ‡	-1.1%	0.147	-\$98	\$6	-\$108	\$16
Hospital	217,564	\$4,198	\$4,315	224,595	\$4,180	\$4,283	\$15 ‡	0.4%	0.682	-\$45	\$74	-\$56	\$86
PGP	101,179	\$3,883	\$3,924	78,448	\$3,926	\$4,110	-\$142 ‡	-3.7%	0.011	-\$235	-\$50	-\$253	-\$32
Surgical	78,882	\$1,841	\$1,786	65,443	\$1,803	\$1,811	-\$63	-3.4%	0.139	-\$133	\$7	-\$147	\$20
Hospital	26,309	\$2,292	\$2,318	25,034	\$2,186	\$2,337	-\$125	-5.5%	0.139	-\$264	\$14	-\$291	\$41
PGP	52,573	\$1,570	\$1,477	40,409	\$1,576	\$1,497	-\$14	-0.9%	0.764	-\$90	\$62	-\$105	\$77

Note: See the first page of this appendix for data sources and more information.

Exhibit F.7: Impact of BPCI Advanced on Proportion of Episodes First Discharged to Institutional PAC Setting, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	391,425	31.9%	23.9%	362,720	31.0%	25.0%	-1.94 pp ‡	-6.1%	<0.001	-2.48 pp	-1.40 pp	-2.59 pp	-1.29 pp
Medical	318,743	28.9%	23.5%	303,043	28.3%	23.9%	-1.01 pp	-3.5%	<0.001	-1.39 pp	-0.63 pp	-1.47 pp	-0.55 pp
Hospital	217,564	29.8%	24.5%	224,595	29.1%	24.7%	-0.90 pp	-3.0%	<0.001	-1.33 pp	-0.47 pp	-1.41 pp	-0.39 pp
PGP	101,179	25.9%	21.0%	78,448	25.6%	21.5%	-0.86 pp	-3.3%	0.044	-1.57 pp	-0.16 pp	-1.70 pp	-0.02 pp
Surgical	72,682	44.8%	26.8%	59,677	43.0%	30.0%	-4.89 pp	-10.9%	<0.001	-6.43 pp	-3.35 pp	-6.72 pp	-3.05 pp
Hospital	20,109	46.4%	31.6%	19,268	45.2%	33.0%	-2.65 pp	-5.7%	0.184	-5.93 pp	0.63 pp	-6.56 pp	1.26 pp
PGP	52,573	43.7%	24.5%	40,409	42.3%	28.9%	-5.71 pp	-13.1%	<0.001	-7.44 pp	-3.98 pp	-7.77 pp	-3.64 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.8: Impact of BPCI Advanced on Number of Days in SNF Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	97,254	34.7	30.5	89,826	34.6	32.6	-2.11 ‡	-6.1%	<0.001	-2.52	-1.70	-2.60	-1.62
Medical	80,370	35.4	31.8	75,720	35.4	33.7	-1.82	-5.1%	<0.001	-2.24	-1.40	-2.33	-1.31
Hospital	57,383	35.7	31.8	57,156	35.7	34.1	-2.24 ‡	-6.3%	<0.001	-2.71	-1.77	-2.80	-1.69
PGP	22,987	34.3	31.8	18,563	34.3	32.3	-0.47	-1.4%	0.353	-1.31	0.37	-1.47	0.53
Surgical	16,884	32.0	25.2	14,106	31.8	28.3	-3.25	-10.2%	<0.001	-4.06	-2.45	-4.22	-2.29
Hospital	5,405	34.3	27.6	4,856	33.6	30.2	-3.28	-9.6%	<0.001	-4.45	-2.11	-4.68	-1.88
PGP	11,479	30.9	24.4	9,250	30.7	27.3	-3.19	-10.3%	<0.001	-4.24	-2.13	-4.44	-1.93

Note: See the first page of this appendix for data sources and more information.

Exhibit F.9: Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	394,330	28.3%	25.9%	365,657	28.1%	26.0%	-0.25 pp ‡	-0.9%	0.080	-0.48 pp	-0.01 pp	-0.52 pp	0.03 pp
Medical	315,511	31.6%	29.1%	300,275	31.5%	29.2%	-0.23 pp ‡	-0.7%	0.133	-0.49 pp	0.02 pp	-0.54 pp	0.07 pp
Hospital	215,272	32.2%	29.9%	222,494	31.8%	29.5%	0.14 pp ‡	0.4%	0.416	-0.14 pp	0.42 pp	-0.20 pp	0.47 pp
PGP	100,239	29.6%	27.2%	77,781	30.2%	28.6%	-0.83 pp	-2.8%	0.006	-1.33 pp	-0.34 pp	-1.42 pp	-0.24 pp
Surgical	78,819	14.6%	12.9%	65,383	14.4%	13.0%	-0.25 pp	-1.7%	0.414	-0.74 pp	0.25 pp	-0.84 pp	0.34 pp
Hospital	26,283	16.9%	15.2%	25,005	16.4%	14.9%	-0.19 pp	-1.1%	0.609	-0.79 pp	0.42 pp	-0.91 pp	0.53 pp
PGP	52,536	13.2%	11.6%	40,377	13.3%	11.9%	-0.26 pp	-2.0%	0.541	-0.96 pp	0.44 pp	-1.09 pp	0.57 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.10: Impact of BPCI Advanced on Mortality During the Anchor Stay Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
All Clinical Episodes	415,457	17.3%	16.8%	386,480	16.9%	16.7%	-0.20 pp	-1.2%	0.173	-0.45 pp	0.04 pp	-0.50 pp	0.09 pp
Medical	336,757	20.3%	19.8%	321,176	20.0%	19.7%	-0.27 pp	-1.3%	0.146	-0.57 pp	0.03 pp	-0.62 pp	0.09 pp
Hospital	231,822	20.8%	20.5%	239,522	20.5%	20.2%	-0.05 pp	-0.3%	0.793	-0.38 pp	0.28 pp	-0.44 pp	0.34 pp
PGP	104,934	18.7%	17.7%	81,654	18.3%	17.9%	-0.64 pp	-3.4%	0.083	-1.24 pp	-0.03 pp	-1.36 pp	0.08 pp
Surgical	78,701	4.0%	4.0%	65,304	3.9%	3.8%	0.06 pp	1.6%	0.550	-0.11 pp	0.24 pp	-0.14 pp	0.27 pp
Hospital	26,277	4.6%	4.4%	25,030	4.5%	4.4%	-0.17 pp	-3.8%	0.328	-0.47 pp	0.12 pp	-0.52 pp	0.17 pp
PGP	52,423	3.6%	3.7%	40,274	3.6%	3.5%	0.18 pp	5.1%	0.150	-0.03 pp	0.40 pp	-0.07 pp	0.44 pp

Note: See the first page of this appendix for data sources and more information.

B. Hospitals Individual Clinical Episodes

Exhibit F.11: Impact of BPCI Advanced on Total Allowed Payments Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,397	\$27,309	\$26,079	9,592	\$26,847	\$26,449	-\$832	-3.0%	0.014	-\$1,389	-\$276	-\$1,496	-\$169
Cardiac Arrhythmia	14,297	\$19,576	\$19,400	14,260	\$19,100	\$19,505	-\$581	-3.0%	0.013	-\$964	-\$198	-\$1,038	-\$124
COPD, Bronchitis, & Asthma	12,789	\$20,710	\$20,509	13,414	\$20,305	\$20,269	-\$165	-0.8%	0.486	-\$554	\$224	-\$629	\$299
CHF	21,065	\$26,494	\$25,169	21,446	\$26,421	\$25,699	-\$603	-2.3%	0.013	-\$1,001	-\$205	-\$1,078	-\$128
GI Hemorrhage	8,890	\$22,359	\$22,944	10,426	\$21,846	\$23,041	-\$609	-2.7%	0.033	-\$1,079	-\$140	-\$1,170	-\$49
Renal Failure	13,335	\$26,403	\$26,437	14,158	\$25,711	\$26,326	-\$580	-2.2%	0.038	-\$1,039	-\$120	-\$1,127	-\$32
Sepsis	82,006	\$31,489	\$32,784	80,010	\$31,424	\$33,474	-\$755	-2.4%	<0.001	-\$1,093	-\$418	-\$1,158	-\$353
SPRI	43,619	\$25,282	\$24,588	47,342	\$24,818	\$24,824	-\$700	-2.8%	<0.001	-\$1,043	-\$357	-\$1,109	-\$291
Stroke	16,811	\$32,940	\$31,460	18,927	\$32,825	\$32,799	-\$1,455	-4.4%	<0.001	-\$2,048	-\$863	-\$2,162	-\$749
UTI	11,259	\$24,739	\$24,834	12,253	\$24,208	\$25,546	-\$1,243	-5.0%	<0.001	-\$1,723	-\$763	-\$1,815	-\$670

Note: See the first page of this appendix for data sources and more information.

Exhibit F.12: Impact of BPCI Advanced on Total Allowed Payments Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,248	\$51,390	\$51,372	2,167	\$50,194	\$51,603	-\$1,427	-2.8%	0.094	-\$2,828	-\$26	-\$3,100	\$246
Fractures of the Femur and Hip or Pelvis	790	\$33,432	\$31,229	804	\$32,998	\$31,591	-\$795	-2.4%	0.539	-\$2,941	\$1,350	-\$3,360	\$1,769
Hip & Femur Procedures	4,589	\$47,116	\$45,260	4,452	\$46,330	\$46,347	-\$1,873	-4.0%	0.008	-\$3,028	-\$717	-\$3,251	-\$494
MJRLE	9,367	\$27,895	\$24,391	8,177	\$27,580	\$24,889	-\$813	-2.9%	0.123	-\$1,679	\$54	-\$1,847	\$222
Pacemaker	1,567	\$31,482	\$30,239	1,535	\$30,688	\$30,909	-\$1,464	-4.6%	0.018	-\$2,479	-\$448	-\$2,676	-\$251
PCI	2,960	\$28,255	\$28,664	3,770	\$27,068	\$27,820	-\$344	-1.2%	0.480	-\$1,148	\$461	-\$1,304	\$617
PCI (OP)	6,297	\$17,097	\$18,163	5,830	\$17,008	\$18,159	-\$85	-0.5%	0.778	-\$582	\$412	-\$678	\$509

Note: See the first page of this appendix for data sources and more information.

Exhibit F.13: Impact of BPCI Advanced on Total Paid Payments Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,397	\$24,137	\$23,070	9,592	\$23,713	\$23,384	-\$738	-3.1%	0.017	-\$1,249	-\$228	-\$1,347	-\$130
Cardiac Arrhythmia	14,297	\$16,799	\$16,584	14,260	\$16,367	\$16,629	-\$477	-2.8%	0.024	-\$824	-\$130	-\$890	-\$63
COPD, Bronchitis, & Asthma	12,789	\$17,963	\$17,832	13,414	\$17,582	\$17,555	-\$103	-0.6%	0.631	-\$458	\$251	-\$527	\$320
CHF	21,065	\$23,416	\$22,243	21,446	\$23,364	\$22,710	-\$520	-2.2%	0.018	-\$880	-\$160	-\$949	-\$90
GI Hemorrhage	8,890	\$19,395	\$19,995	10,426	\$18,947	\$20,052	-\$506	-2.6%	0.050	-\$930	-\$82	-\$1,012	\$0
Renal Failure	13,335	\$23,030	\$23,220	14,158	\$22,431	\$23,051	-\$429	-1.9%	0.084	-\$838	-\$21	-\$916	\$57
Sepsis	82,006	\$27,847	\$29,233	80,010	\$27,784	\$29,790	-\$620	-2.2%	<0.001	-\$927	-\$314	-\$985	-\$255
SPRI	43,619	\$22,136	\$21,603	47,342	\$21,741	\$21,778	-\$569	-2.6%	0.003	-\$879	-\$259	-\$939	-\$200
Stroke	16,811	\$29,189	\$28,088	18,927	\$29,145	\$29,312	-\$1,269	-4.3%	<0.001	-\$1,814	-\$723	-\$1,919	-\$618
UTI	11,259	\$21,222	\$21,527	12,253	\$20,755	\$22,063	-\$1,003	-4.7%	<0.001	-\$1,419	-\$587	-\$1,499	-\$507

Note: See the first page of this appendix for data sources and more information.

Exhibit F.14: Impact of BPCI Advanced on Total Paid Payments Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,248	\$47,811	\$47,940	2,167	\$46,772	\$48,223	-\$1,322	-2.8%	0.101	-\$2,648	\$4	-\$2,905	\$261
Fractures of the Femur and Hip or Pelvis	790	\$28,769	\$27,440	804	\$28,339	\$27,417	-\$407	-1.4%	0.722	-\$2,297	\$1,483	-\$2,666	\$1,852
Hip & Femur Procedures	4,589	\$41,441	\$40,397	4,452	\$40,592	\$41,143	-\$1,596	-3.9%	0.011	-\$2,623	-\$569	-\$2,821	-\$370
MJRL	9,367	\$25,081	\$21,363	8,177	\$24,781	\$21,829	-\$766	-3.1%	0.126	-\$1,590	\$58	-\$1,750	\$217
Pacemaker	1,567	\$28,592	\$27,473	1,535	\$27,889	\$28,079	-\$1,308	-4.6%	0.020	-\$2,225	-\$391	-\$2,403	-\$213
PCI	2,960	\$25,390	\$25,756	3,770	\$24,306	\$24,951	-\$278	-1.1%	0.540	-\$1,030	\$473	-\$1,176	\$619
PCI (OP)	6,297	\$14,214	\$14,906	5,830	\$14,101	\$14,912	-\$120	-0.8%	0.657	-\$566	\$326	-\$652	\$412

Note: See the first page of this appendix for data sources and more information.

Exhibit F.15: Impact of BPCI Advanced on SNF Payments Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,397	\$4,531	\$3,352	9,592	\$4,379	\$3,636	-\$437	-9.6%	0.008	-\$707	-\$167	-\$759	-\$115
Cardiac Arrhythmia	14,297	\$3,105	\$2,356	14,260	\$2,998	\$2,636	-\$386	-12.4%	<0.001	-\$569	-\$203	-\$604	-\$167
COPD, Bronchitis, & Asthma	12,789	\$3,130	\$2,832	13,414	\$3,025	\$2,865	-\$138	-4.4%	0.263	-\$341	\$65	-\$380	\$104
CHF	21,065	\$4,588	\$3,503	21,446	\$4,450	\$3,798	-\$432 ‡	-9.4%	<0.001	-\$623	-\$240	-\$660	-\$203
GI Hemorrhage	8,890	\$3,918	\$3,442	10,426	\$3,710	\$3,502	-\$267	-6.8%	0.091	-\$526	-\$7	-\$577	\$43
Renal Failure	13,335	\$6,424	\$5,728	14,158	\$6,152	\$5,963	-\$506	-7.9%	0.008	-\$821	-\$191	-\$881	-\$131
Sepsis	82,006	\$6,220	\$6,019	80,010	\$6,046	\$6,397	-\$552	-8.9%	<0.001	-\$740	-\$364	-\$776	-\$328
SPRI	43,619	\$5,485	\$4,815	47,342	\$5,186	\$5,023	-\$506	-9.2%	<0.001	-\$741	-\$272	-\$786	-\$227
Stroke	16,811	\$8,060	\$5,846	18,927	\$7,643	\$5,949	-\$520	-6.4%	0.013	-\$863	-\$177	-\$929	-\$111
UTI	11,259	\$7,834	\$6,821	12,253	\$7,502	\$7,359	-\$870	-11.1%	<0.001	-\$1,233	-\$506	-\$1,302	-\$437

Note: See the first page of this appendix for data sources and more information.

Exhibit F.16: Impact of BPCI Advanced on SNF Payments Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,248	\$2,741	\$1,616	2,167	\$2,365	\$1,733	-\$493	-18.0%	0.059	-\$921	-\$65	-\$1,004	\$18
Fractures of the Femur and Hip or Pelvis	790	\$15,430	\$11,357	804	\$15,374	\$12,258	-\$957	-6.2%	0.341	-\$2,620	\$706	-\$2,945	\$1,030
Hip & Femur Procedures	4,589	\$18,400	\$14,555	4,452	\$18,814	\$15,145	-\$176	-1.0%	0.786	-\$1,244	\$892	-\$1,451	\$1,099
MJRL	9,367	\$5,015	\$2,584	8,177	\$5,131	\$3,306	-\$607	-12.1%	0.123	-\$1,256	\$42	-\$1,382	\$168
Pacemaker	1,567	\$4,112	\$3,238	1,535	\$3,699	\$2,968	-\$143	-3.5%	0.691	-\$737	\$452	-\$853	\$567
PCI	2,960	\$1,657	\$1,255	3,770	\$1,366	\$1,104	-\$140 ‡	-8.5%	0.414	-\$424	\$143	-\$479	\$198
PCI (OP)	6,297	\$232	\$141	5,830	\$183	\$177	-\$85	-36.5%	0.029	-\$148	-\$21	-\$161	-\$9

Note: See the first page of this appendix for data sources and more information.

Exhibit F.17: Impact of BPCI Advanced on IRF Payments Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,397	\$774	\$929	9,592	\$732	\$918	-\$31	-4.0%	0.754	-\$192	\$130	-\$223	\$161
Cardiac Arrhythmia	14,297	\$583	\$653	14,260	\$603	\$744	-\$71	-12.2%	0.264	-\$176	\$34	-\$197	\$54
COPD, Bronchitis, & Asthma	12,789	\$469	\$530	13,414	\$488	\$575	-\$26	-5.5%	0.659	-\$121	\$70	-\$140	\$88
CHF	21,065	\$642	\$723	21,446	\$777	\$924	-\$66	-10.3%	0.340	-\$181	\$48	-\$203	\$70
GI Hemorrhage	8,890	\$455	\$629	10,426	\$424	\$644	-\$46	-10.1%	0.547	-\$171	\$79	-\$195	\$104
Renal Failure	13,335	\$836	\$1,081	14,158	\$801	\$1,126	-\$80	-9.6%	0.402	-\$237	\$77	-\$267	\$107
Sepsis	82,006	\$706	\$922	80,010	\$682	\$995	-\$97	-13.8%	0.034	-\$173	-\$22	-\$187	-\$7
SPRI	43,619	\$615	\$724	47,342	\$605	\$825	-\$111	-18.1%	0.058	-\$208	-\$15	-\$226	\$4
Stroke	16,811	\$6,261	\$6,165	18,927	\$6,676	\$7,256	-\$677	-10.8%	0.005	-\$1,070	-\$284	-\$1,145	-\$208
UTI	11,259	\$709	\$896	12,253	\$700	\$1,131	-\$244	-34.4%	0.010	-\$399	-\$89	-\$429	-\$59

Note: See the first page of this appendix for data sources and more information.

Exhibit F.18: Impact of BPCI Advanced on IRF Payments Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,248	\$2,726	\$2,203	2,167	\$2,742	\$2,886	-\$666 †	-24.4%	0.122	-\$1,375	\$43	-\$1,513	\$180
Fractures of the Femur and Hip or Pelvis	790	\$2,828	\$4,124	804	\$3,035	\$4,138	\$193	6.8%	0.759	-\$851	\$1,236	-\$1,054	\$1,440
Hip & Femur Procedures	4,589	\$4,770	\$5,113	4,452	\$3,908	\$5,823	-\$1,573	-33.0%	0.004	-\$2,467	-\$679	-\$2,640	-\$506
MJRL	9,367	\$1,899	\$1,479	8,177	\$1,545	\$1,303	-\$178	-9.4%	0.478	-\$594	\$237	-\$674	\$318
Pacemaker	1,567	\$827	\$634	1,535	\$746	\$1,215	-\$663	-80.2%	0.002	-\$1,010	-\$316	-\$1,078	-\$248
PCI	2,960	\$430	\$569	3,770	\$450	\$516	\$73	17.1%	0.451	-\$88	\$234	-\$119	\$265
PCI (OP)	6,297	\$86	\$128	5,830	\$81	\$157	-\$34	-39.2%	0.291	-\$86	\$19	-\$96	\$29

Note: See the first page of this appendix for data sources and more information.

Exhibit F.19: Impact of BPCI Advanced on HH Payments Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,397	\$1,157	\$1,219	9,592	\$1,145	\$1,243	-\$37 ‡	-3.2%	0.252	-\$89	\$16	-\$100	\$26
Cardiac Arrhythmia	14,297	\$1,025	\$1,048	14,260	\$949	\$1,004	-\$32	-3.1%	0.183	-\$72	\$8	-\$79	\$15
COPD, Bronchitis, & Asthma	12,789	\$1,218	\$1,253	13,414	\$1,160	\$1,209	-\$14	-1.2%	0.618	-\$62	\$33	-\$71	\$43
CHF	21,065	\$1,505	\$1,722	21,446	\$1,515	\$1,668	\$64 ‡	4.3%	0.036	\$14	\$115	\$4	\$124
GI Hemorrhage	8,890	\$1,014	\$1,118	10,426	\$959	\$1,073	-\$10	-1.0%	0.744	-\$63	\$42	-\$73	\$52
Renal Failure	13,335	\$1,342	\$1,481	14,158	\$1,283	\$1,448	-\$27	-2.0%	0.400	-\$79	\$25	-\$89	\$35
Sepsis	82,006	\$1,163	\$1,325	80,010	\$1,158	\$1,306	\$15	1.3%	0.344	-\$11	\$40	-\$16	\$45
SPRI	43,619	\$1,226	\$1,270	47,342	\$1,189	\$1,211	\$21	1.7%	0.352	-\$16	\$58	-\$23	\$66
Stroke	16,811	\$1,625	\$1,634	18,927	\$1,619	\$1,649	-\$21	-1.3%	0.518	-\$74	\$32	-\$85	\$43
UTI	11,259	\$1,496	\$1,596	12,253	\$1,499	\$1,586	\$12	0.8%	0.701	-\$40	\$64	-\$50	\$74

Note: See the first page of this appendix for data sources and more information.

Exhibit F.20: Impact of BPCI Advanced on HH Payments Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,248	\$1,891	\$2,028	2,167	\$1,707	\$1,727	\$118	6.2%	0.183	-\$28	\$264	-\$56	\$293
Fractures of the Femur and Hip or Pelvis	790	\$2,096	\$2,256	804	\$1,963	\$2,071	\$52	2.5%	0.655	-\$142	\$246	-\$180	\$284
Hip & Femur Procedures	4,589	\$1,941	\$2,144	4,452	\$1,958	\$2,109	\$52	2.7%	0.445	-\$60	\$164	-\$82	\$186
MJRL	9,367	\$2,394	\$2,060	8,177	\$2,366	\$2,111	-\$79	-3.3%	0.502	-\$272	\$115	-\$309	\$152
Pacemaker	1,567	\$1,279	\$1,265	1,535	\$1,212	\$1,224	-\$26	-2.0%	0.705	-\$137	\$86	-\$159	\$108
PCI	2,960	\$659	\$729	3,770	\$626	\$657	\$39	5.9%	0.367	-\$32	\$110	-\$46	\$124

Note: See the first page of this appendix for data sources and more information.

Exhibit F.21: Impact of BPCI Advanced on Readmissions Payments Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,397	\$5,562	\$5,329	9,592	\$5,461	\$5,625	-\$396	-7.1%	0.038	-\$709	-\$83	-\$770	-\$23
Cardiac Arrhythmia	14,297	\$3,936	\$3,893	14,260	\$3,810	\$3,737	\$31	0.8%	0.790	-\$161	\$224	-\$198	\$261
COPD, Bronchitis, & Asthma	12,789	\$4,415	\$4,412	13,414	\$4,364	\$4,333	\$28	0.6%	0.817	-\$170	\$226	-\$209	\$264
CHF	21,065	\$5,679	\$5,673	21,446	\$5,661	\$5,757	-\$103	-1.8%	0.427	-\$316	\$110	-\$357	\$151
GI Hemorrhage	8,890	\$4,144	\$4,299	10,426	\$4,092	\$4,431	-\$185	-4.5%	0.271	-\$462	\$92	-\$515	\$145
Renal Failure	13,335	\$4,612	\$4,764	14,158	\$4,549	\$4,652	\$49	1.1%	0.691	-\$153	\$250	-\$192	\$289
Sepsis	82,006	\$4,590	\$4,795	80,010	\$4,601	\$4,733	\$73	1.6%	0.249	-\$31	\$177	-\$51	\$197
SPRI	43,619	\$3,869	\$4,041	47,342	\$3,911	\$3,906	\$178	4.6%	0.019	\$53	\$302	\$29	\$326
Stroke	16,811	\$2,888	\$2,890	18,927	\$2,853	\$2,892	-\$38	-1.3%	0.701	-\$201	\$125	-\$233	\$157
UTI	11,259	\$3,815	\$4,047	12,253	\$3,764	\$4,001	-\$4	-0.1%	0.974	-\$209	\$201	-\$249	\$241

Note: See the first page of this appendix for data sources and more information.

Exhibit F.22: Impact of BPCI Advanced on Readmissions Payments Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,248	\$2,719	\$2,150	2,167	\$2,736	\$2,319	-\$151	-5.6%	0.610	-\$640	\$338	-\$735	\$433
Fractures of the Femur and Hip or Pelvis	790	\$2,781	\$2,547	804	\$2,616	\$2,467	-\$85	-3.0%	0.822	-\$707	\$538	-\$829	\$659
Hip & Femur Procedures	4,589	\$2,734	\$2,818	4,452	\$2,586	\$2,739	-\$69	-2.5%	0.683	-\$350	\$211	-\$404	\$265
MJRL	9,367	\$1,346	\$1,280	8,177	\$1,310	\$1,212	\$33	2.4%	0.726	-\$121	\$187	-\$151	\$216
Pacemaker	1,567	\$3,055	\$2,854	1,535	\$2,892	\$2,972	-\$282	-9.2%	0.366	-\$797	\$233	-\$897	\$334
PCI	2,960	\$3,874	\$3,876	3,770	\$3,638	\$4,076	-\$436	-11.3%	0.117	-\$894	\$22	-\$983	\$111
PCI (OP)	6,297	\$2,350	\$2,827	5,830	\$2,223	\$2,921	-\$221	-9.4%	0.284	-\$561	\$119	-\$627	\$185

Note: See the first page of this appendix for data sources and more information.

Exhibit F.23: Impact of BPCI Advanced on Proportion of Episodes First Discharged to Institutional PAC Setting, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,397	24.6%	19.0%	9,592	23.7%	18.5%	-0.46 pp	-1.9%	0.460	-1.47 pp	0.56 pp	-1.66 pp	0.75 pp
Cardiac Arrhythmia	14,297	15.6%	12.3%	14,260	15.1%	12.7%	-0.91 pp	-5.8%	0.035	-1.62 pp	-0.20 pp	-1.76 pp	-0.06 pp
COPD, Bronchitis, & Asthma	12,789	15.9%	12.7%	13,414	15.0%	12.1%	-0.37 pp	-2.3%	0.427	-1.15 pp	0.40 pp	-1.30 pp	0.55 pp
CHF	21,065	24.9%	18.4%	21,446	24.4%	18.8%	-0.92 pp	-3.7%	0.078	-1.78 pp	-0.06 pp	-1.95 pp	0.10 pp
GI Hemorrhage	8,890	19.7%	16.8%	10,426	19.2%	16.0%	0.33 pp ‡	1.7%	0.608	-0.73 pp	1.39 pp	-0.93 pp	1.59 pp
Renal Failure	13,335	32.14%	28.0%	14,158	31.9%	27.9%	-0.18 pp	-0.5%	0.794	-1.29 pp	0.94 pp	-1.50 pp	1.15 pp
Sepsis	82,006	35.7%	30.4%	80,010	34.8%	30.3%	-0.83 pp	-2.3%	0.030	-1.46 pp	-0.20 pp	-1.58 pp	-0.08 pp
SPRI	43,619	30.0%	23.9%	47,342	29.2%	24.0%	-0.88 pp	-2.9%	0.079	-1.70 pp	-0.06 pp	-1.86 pp	0.10 pp
Stroke	16,811	51.3%	42.5%	18,927	51.4%	44.3%	-1.62 pp	-3.2%	0.036	-2.90 pp	-0.35 pp	-3.14 pp	-0.10 pp
UTI	11,259	37.4%	32.1%	12,253	36.0%	32.9%	-2.14 pp	-5.7%	0.005	-3.39 pp	-0.88 pp	-3.63 pp	-0.65 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.24: Impact of BPCI Advanced on Proportion of Episodes First Discharged to Institutional PAC Setting, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,248	34.6%	21.1%	2,167	33.0%	24.5%	-5.09 pp	-14.7%	0.040	-9.15 pp	-1.02 pp	-9.93 pp	-0.24 pp
Fractures of the Femur and Hip or Pelvis	790	76.9%	72.4%	804	76.4%	70.1%	1.74 pp	2.3%	0.512	-2.62 pp	6.09 pp	-3.45 pp	6.93 pp
Hip & Femur Procedures	4,589	88.0%	80.2%	4,452	88.6%	79.8%	0.98 pp ‡	1.1%	0.339	-0.71 pp	2.67 pp	-1.03 pp	3.00 pp
MJRLE	9,367	47.1%	22.2%	8,177	46.3%	24.5%	-3.02 pp	-6.4%	0.366	-8.52 pp	2.48 pp	-9.57 pp	3.53 pp
Pacemaker	1,567	24.7%	19.1%	1,535	22.7%	17.6%	-0.50 pp	-2.0%	0.743	-3.02 pp	2.02 pp	-3.51 pp	2.50 pp
PCI	2,960	8.9%	6.8%	3,770	7.6%	5.6%	-0.08 pp	-0.9%	0.891	-1.00 pp	0.85 pp	-1.18 pp	1.02 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.25: Impact of BPCI Advanced on Number of Days in SNF Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	1,866	32.6	28.3	1,818	32.6	31.6	-3.35	-10.2%	<0.001	-4.76	-1.93	-5.03	-1.66
Cardiac Arrhythmia	2,029	32.7	29.0	2,021	32.9	32.0	-2.75	-8.4%	0.001	-4.14	-1.35	-4.41	-1.08
COPD, Bronchitis, & Asthma	2,135	31.2	29.2	2,092	32.0	31.3	-1.30 ‡	-4.2%	0.093	-2.57	-0.03	-2.82	0.22
CHF	4,773	31.4	28.1	4,676	31.9	30.4	-2.071	-6.6%	0.001	-3.11	-1.04	-3.31	-0.84
GI Hemorrhage	1,725	35.0	31.8	1,933	34.5	34.1	-2.93	-8.4%	0.003	-4.53	-1.33	-4.83	-1.02
Renal Failure	4,220	36.4	32.3	4,256	35.9	34.4	-2.57	-7.1%	<0.001	-3.69	-1.44	-3.91	-1.22
Sepsis	24,808	36.1	32.6	23,280	36.1	34.8	-2.23	-6.2%	<0.001	-2.84	-1.62	-2.96	-1.50
SPRI	12,172	35.3	31.5	12,755	35.0	33.1	-2.04	-5.8%	<0.001	-2.88	-1.19	-3.04	-1.03
Stroke	4,616	41.4	34.9	4,869	41.2	37.3	-2.56	-6.2%	<0.001	-3.70	-1.41	-3.92	-1.19
UTI	4,011	38.5	34.1	4,450	38.6	36.2	-2.12	-5.5%	0.003	-3.28	-0.97	-3.50	-0.75

Note: See the first page of this appendix for data sources and more information.

Exhibit F.26: Impact of BPCI Advanced on Number of Days in SNF Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	236	23.2	20.2	227	21.8	20.3	-1.48	-6.4%	0.447	-4.70	1.74	-5.32	2.36
Fractures of the Femur and Hip or Pelvis	483	41.5	32.5	471	42.5	36.0	-2.48	-6.0%	0.162	-5.40	0.44	-5.97	1.01
Hip & Femur Procedures	2,957	46.3	37.5	2,722	46.2	41.0	-3.58	-7.7%	0.001	-5.37	-1.79	-5.71	-1.45
MJRL	1,714	23.9	19.4	1,404	22.6	21.5	-3.43	-14.4%	<0.001	-4.92	-1.94	-5.21	-1.65
Pacemaker	276	31.9	27.9	226	31.5	31.6	-4.05	-12.7%	0.118	-8.31	0.21	-9.14	1.04
PCI	233	30.3	26.2	243	29.7	29.2	-3.70	-12.2%	0.079	-7.16	-0.23	-7.83	0.44

Note: See the first page of this appendix for data sources and more information.

Exhibit F.27: Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,232	36.4%	32.6%	9,414	36.0%	33.6%	-1.47 pp	-4.0%	0.064	-2.78 pp	-0.16 pp	-3.03 pp	0.09 pp
Cardiac Arrhythmia	14,139	31.8%	28.7%	14,133	30.8%	27.1%	0.56 pp	1.8%	0.371	-0.47 pp	1.59 pp	-0.67 pp	1.79 pp
COPD, Bronchitis, & Asthma	12,573	36.2%	32.4%	13,215	35.8%	33.0%	-1.01 pp	-2.8%	0.106	-2.04 pp	0.02 pp	-2.23 pp	0.22 pp
CHF	20,849	41.0%	37.4%	21,221	40.6%	36.8%	0.27 pp	0.6%	0.617	-0.61 pp	1.14 pp	-0.77 pp	1.31 pp
GI Hemorrhage	8,796	31.7%	30.3%	10,324	31.0%	30.4%	-0.74 pp	-2.3%	0.324	-1.97 pp	0.49 pp	-2.21 pp	0.73 pp
Renal Failure	13,196	35.67%	33.8%	14,006	35.1%	33.0%	0.28 pp	0.8%	0.630	-0.68 pp	1.24 pp	-0.86 pp	1.42 pp
Sepsis	81,191	32.4%	30.6%	79,287	32.3%	30.2%	0.25 pp ‡	0.8%	0.368	-0.21 pp	0.70 pp	-0.29 pp	0.79 pp
SPRI	43,233	30.4%	28.2%	46,987	30.3%	27.4%	0.60 pp	2.0%	0.134	-0.06 pp	1.25 pp	-0.18 pp	1.38 pp
Stroke	16,647	25.4%	23.3%	18,789	25.1%	23.2%	-0.16 pp	-0.6%	0.757	-1.02 pp	0.69 pp	-1.18 pp	0.86 pp
UTI	11,179	32.8%	31.0%	12,188	32.5%	30.0%	0.74 pp	2.3%	0.252	-0.32 pp	1.80 pp	-0.53 pp	2.01 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.28: Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,245	21.8%	16.7%	2,165	21.0%	17.4%	-1.35 pp	-6.2%	0.356	-3.76 pp	1.06 pp	-4.22 pp	1.52 pp
Fractures of the Femur and Hip or Pelvis	789	24.9%	23.5%	803	23.6%	19.7%	2.55 pp	10.2%	0.126	-0.19 pp	5.29 pp	-0.72 pp	5.82 pp
Hip & Femur Procedures	4,587	22.2%	21.4%	4,447	21.5%	20.0%	0.75 pp	3.4%	0.374	-0.64 pp	2.15 pp	-0.91 pp	2.42 pp
MJRL	9,365	11.3%	9.5%	8,176	11.0%	9.4%	-0.20 pp	-1.8%	0.728	-1.13 pp	0.74 pp	-1.31 pp	0.92 pp
Pacemaker	1,564	24.6%	19.2%	1,534	23.8%	19.7%	-1.34 pp	-5.5%	0.348	-3.70 pp	1.01 pp	-4.15 pp	1.46 pp
PCI	2,944	26.6%	24.6%	3,749	25.4%	24.1%	-0.65 pp	-2.4%	0.631	-2.87 pp	1.57 pp	-3.29 pp	2.00 pp
PCI (OP)	6,297	13.5%	13.6%	5,830	13.1%	13.6%	-0.37 pp	-2.8%	0.638	-1.67 pp	0.93 pp	-1.92 pp	1.18 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.29: Impact of BPCI Advanced on Mortality During the Anchor Stay, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	9,207	19.2%	18.0%	9,390	18.7%	18.5%	-0.91 pp	-4.8%	0.158	-1.98 pp	0.15 pp	-2.18 pp	0.36 pp
Cardiac Arrhythmia	14,304	10.5%	10.2%	14,363	10.7%	10.4%	-0.02 pp	-0.2%	0.946	-0.60 pp	0.55 pp	-0.71 pp	0.66 pp
COPD, Bronchitis, & Asthma	12,532	8.9%	8.4%	13,168	8.7%	8.0%	0.25 pp	2.9%	0.437	-0.28 pp	0.79 pp	-0.39 pp	0.90 pp
CHF	21,297	20.5%	17.9%	21,603	21.2%	18.1%	0.39 pp	1.9%	0.349	-0.30 pp	1.08 pp	-0.43 pp	1.21 pp
GI Hemorrhage	8,939	12.8%	12.5%	10,479	12.6%	12.3%	0.11 pp	0.8%	0.816	-0.66 pp	0.87 pp	-0.80 pp	1.02 pp
Renal Failure	13,468	20.84%	21.0%	14,320	20.5%	20.8%	-0.04 pp	-0.2%	0.948	-1.01 pp	0.93 pp	-1.20 pp	1.12 pp
Sepsis	95,720	32.6%	32.5%	93,973	31.5%	32.0%	-0.60 pp	-1.8%	0.098	-1.20 pp	0.00 pp	-1.31 pp	0.11 pp
SPRI	46,251	21.3%	20.2%	50,293	20.6%	20.0%	-0.55 pp ‡	-2.6%	0.171	-1.20 pp	0.11 pp	-1.33 pp	0.24 pp
Stroke	17,849	23.1%	22.1%	20,117	22.9%	22.1%	-0.14 pp	-0.6%	0.783	-0.96 pp	0.68 pp	-1.12 pp	0.84 pp
UTI	11,072	12.8%	13.4%	12,073	12.4%	13.5%	-0.50 pp	-3.9%	0.307	-1.30 pp	0.30 pp	-1.45 pp	0.46 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.30: Impact of BPCI Advanced on Mortality During the Anchor Stay Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
CABG	2,287	4.0%	3.3%	2,194	3.6%	2.6%	0.32 pp	8.1%	0.565	-0.60 pp	1.25 pp	-0.78 pp	1.43 pp
Fractures of the Femur and Hip or Pelvis	790	15.3%	14.1%	796	16.8%	16.4%	-0.74 pp	-4.9%	0.669	-3.60 pp	2.12 pp	-4.15 pp	2.66 pp
Hip & Femur Procedures	4,543	12.4%	12.2%	4,387	12.0%	11.8%	0.04 pp	0.3%	0.949	-1.02 pp	1.11 pp	-1.23 pp	1.31 pp
MJRLE	9,337	2.1%	2.1%	8,172	2.1%	2.0%	0.00 pp	0.0%	0.999	-0.36 pp	0.36 pp	-0.43 pp	0.43 pp
Pacemaker	1,568	6.8%	5.1%	1,553	6.3%	5.3%	-0.65 pp	-9.6%	0.388	-1.89 pp	0.59 pp	-2.13 pp	0.83 pp
PCI	2,990	5.9%	6.2%	3,814	5.5%	6.9%	-1.08 pp	-18.3%	0.132	-2.26 pp	0.10 pp	-2.49 pp	0.32 pp
PCI (OP)	6,293	1.0%	1.1%	5,831	1.1%	1.0%	0.12 pp	12.0%	0.517	-0.19 pp	0.43 pp	-0.25 pp	0.49 pp

Note: See the first page of this appendix for data sources and more information.

C. Physician Group Practice Individual Clinical Episodes

Exhibit F.31: Impact of BPCI Advanced on Total Allowed Payments Through 90-day PDP, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,970	\$26,285	\$25,157	4,104	\$25,559	\$24,921	-\$491	-1.9%	0.343	-\$1,345	\$364	-\$1,511	\$530
Cardiac Arrhythmia	6,841	\$19,075	\$19,309	5,475	\$19,128	\$19,175	\$188	1.0%	0.603	-\$408	\$783	-\$524	\$899
Cellulitis	2,354	\$21,224	\$21,847	1,788	\$21,193	\$22,369	-\$553	-2.6%	0.329	-\$1,490	\$383	-\$1,673	\$567
COPD, Bronchitis, & Asthma	5,991	\$19,754	\$19,277	4,711	\$19,389	\$19,211	-\$299	-1.5%	0.302	-\$777	\$179	-\$870	\$271
CHF	9,229	\$25,981	\$24,882	7,218	\$25,204	\$24,651	-\$547	-2.1%	0.065	-\$1,034	-\$60	-\$1,128	\$35
GI Hemorrhage	7,477	\$21,328	\$22,176	6,518	\$21,546	\$22,638	-\$244	-1.1%	0.474	-\$808	\$320	-\$918	\$429
GI Obstruction	2,758	\$17,290	\$16,923	2,178	\$17,145	\$17,473	-\$695	-4.0%	0.145	-\$1,481	\$91	-\$1,635	\$245
Renal Failure	6,437	\$25,161	\$25,065	6,077	\$24,616	\$25,706	-\$1,185	-4.7%	0.018	-\$2,001	-\$369	-\$2,160	-\$210
Sepsis	31,508	\$29,626	\$31,040	27,250	\$29,254	\$31,287	-\$619	-2.1%	0.073	-\$1,187	-\$51	-\$1,296	\$59
SPRI	23,678	\$24,219	\$23,460	18,601	\$23,875	\$23,695	-\$578	-2.4%	0.090	-\$1,138	-\$18	-\$1,246	\$91
Stroke	5,514	\$32,080	\$31,738	4,504	\$31,791	\$31,862	-\$414	-1.3%	0.466	-\$1,353	\$524	-\$1,535	\$707
UTI	6,506	\$23,424	\$23,679	4,676	\$23,615	\$24,821	-\$951	-4.1%	0.009	-\$1,546	-\$356	-\$1,662	-\$241

Note: See the first page of this appendix for data sources and more information.

Exhibit F.32: Impact of BPCI Advanced on Total Allowed Payments Through 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,303	\$46,052	\$42,872	7,281	\$45,761	\$45,695	-\$3,113	-6.8%	<0.001	-\$4,156	-\$2,071	-\$4,357	-\$1,870
MJRLE	30,297	\$26,597	\$22,384	23,645	\$26,266	\$24,188	-\$2,135	-8.0%	<0.001	-\$2,507	-\$1,762	-\$2,579	-\$1,690
MJRUE	4,455	\$24,208	\$22,887	4,732	\$24,181	\$23,566	-\$706 ‡	-2.9%	0.045	-\$1,284	-\$128	-\$1,397	-\$15
PCI	3,516	\$27,982	\$27,635	2,408	\$27,910	\$27,897	-\$334	-1.2%	0.588	-\$1,358	\$690	-\$1,559	\$891
Spinal Fusion	5,974	\$43,812	\$38,672	4,615	\$43,983	\$41,237	-\$2,394	-5.5%	0.003	-\$3,696	-\$1,092	-\$3,949	-\$839

Note: See the first page of this appendix for data sources and more information.

Exhibit F.33: Impact of BPCI Advanced on Total Paid Payments Through 90-day PDP, Medical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,970	\$23,200	\$22,243	4,104	\$22,561	\$22,033	-\$428	-1.8%	0.361	-\$1,201	\$345	-\$1,351	\$495
Cardiac Arrhythmia	6,841	\$16,346	\$16,471	5,475	\$16,390	\$16,394	\$120	0.7%	0.712	-\$419	\$659	-\$523	\$764
Cellulitis	2,354	\$18,260	\$18,904	1,788	\$18,196	\$19,277	-\$437	-2.4%	0.384	-\$1,266	\$393	-\$1,429	\$555
COPD, Bronchitis, & Asthma	5,991	\$17,147	\$16,729	4,711	\$16,799	\$16,692	-\$310	-1.8%	0.253	-\$758	\$138	-\$845	\$224
CHF	9,229	\$22,987	\$21,958	7,218	\$22,285	\$21,753	-\$497	-2.2%	0.062	-\$934	-\$60	-\$1,019	\$25
GI Hemorrhage	7,477	\$18,503	\$19,280	6,518	\$18,677	\$19,707	-\$252	-1.4%	0.406	-\$754	\$249	-\$852	\$347
GI Obstruction	2,758	\$14,770	\$14,416	2,178	\$14,623	\$14,822	-\$554	-3.7%	0.205	-\$1,275	\$168	-\$1,415	\$308
Renal Failure	6,437	\$21,972	\$21,946	6,077	\$21,465	\$22,536	-\$1,097 †	-5.0%	0.013	-\$1,817	-\$377	-\$1,957	-\$237
Sepsis	31,508	\$26,245	\$27,643	27,250	\$25,902	\$27,858	-\$558	-2.1%	0.075	-\$1,073	-\$43	-\$1,173	\$57
SPRI	23,678	\$21,278	\$20,625	18,601	\$20,959	\$20,811	-\$505	-2.4%	0.093	-\$1,001	-\$10	-\$1,096	\$86
Stroke	5,514	\$28,486	\$28,384	4,504	\$28,106	\$28,377	-\$373	-1.3%	0.485	-\$1,257	\$511	-\$1,429	\$683
UTI	6,506	\$20,173	\$20,518	4,676	\$20,313	\$21,540	-\$883	-4.4%	0.008	-\$1,423	-\$342	-\$1,528	-\$237

Note: See the first page of this appendix for data sources and more information.

Exhibit F.34: Impact of BPCI Advanced on Total Paid Payments Through 90-day PDP, Surgical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,303	\$40,427	\$38,087	7,281	\$40,182	\$40,687	-\$2,844	-7.0%	<0.001	-\$3,784	-\$1,904	-\$3,966	-\$1,723
MJRLE	30,297	\$23,842	\$19,422	23,645	\$23,503	\$21,056	-\$1,972	-8.3%	<0.001	-\$2,338	-\$1,607	-\$2,408	-\$1,537
MJRUE	4,455	\$21,555	\$20,319	4,732	\$21,504	\$20,941	-\$673 †	-3.1%	0.035	-\$1,196	-\$149	-\$1,298	-\$48
PCI	3,516	\$25,115	\$24,788	2,408	\$25,031	\$24,964	-\$260	-1.0%	0.652	-\$1,218	\$697	-\$1,407	\$886
Spinal Fusion	5,974	\$40,363	\$35,434	4,615	\$40,520	\$37,889	-\$2,298	-5.7%	0.002	-\$3,527	-\$1,069	-\$3,766	-\$830

Note: See the first page of this appendix for data sources and more information.

Exhibit F.35: Impact of BPCI Advanced on SNF Payments Through 90-day PDP, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,970	\$4,212	\$3,003	4,104	\$3,943	\$3,240	-\$505	-12.0%	0.023	-\$869	-\$142	-\$940	-\$71
Cardiac Arrhythmia	6,841	\$2,832	\$2,321	5,475	\$2,979	\$2,467	\$1	0.0%	0.995	-\$319	\$321	-\$381	\$383
Cellulitis	2,354	\$4,786	\$4,528	1,788	\$4,759	\$4,809	-\$309	-6.4%	0.412	-\$930	\$313	-\$1,052	\$435
COPD, Bronchitis, & Asthma	5,991	\$2,650	\$2,241	4,711	\$2,617	\$2,334	-\$125 †	-4.7%	0.449	-\$398	\$148	-\$451	\$201
CHF	9,229	\$4,420	\$3,540	7,218	\$4,243	\$3,528	-\$165	-3.7%	0.366	-\$467	\$137	-\$525	\$195
GI Hemorrhage	7,477	\$3,434	\$3,140	6,518	\$3,580	\$3,308	-\$22	-0.6%	0.907	-\$331	\$287	-\$391	\$347
GI Obstruction	2,758	\$2,418	\$1,721	2,178	\$2,255	\$2,254	-\$696	-28.8%	0.003	-\$1,078	-\$313	-\$1,153	-\$239
Renal Failure	6,437	\$5,899	\$5,526	6,077	\$5,749	\$5,530	-\$154	-2.6%	0.606	-\$649	\$340	-\$745	\$437
Sepsis	31,508	\$5,774	\$5,735	27,250	\$5,556	\$5,846	-\$329	-5.7%	0.093	-\$651	-\$7	-\$713	\$55
SPRI	23,678	\$4,806	\$4,238	18,601	\$4,561	\$4,351	-\$358	-7.4%	0.110	-\$726	\$11	-\$798	\$82
Stroke	5,514	\$7,364	\$5,537	4,504	\$7,958	\$5,895	\$235	3.2%	0.428	-\$255	\$725	-\$350	\$820
UTI	6,506	\$6,903	\$6,299	4,676	\$6,974	\$6,576	-\$207	-3.0%	0.463	-\$672	\$258	-\$762	\$349

Note: See the first page of this appendix for data sources and more information.

Exhibit F.36: Impact of BPCI Advanced on SNF Payments Through 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,303	\$18,249	\$14,193	7,281	\$18,141	\$14,978	-\$893	-4.9%	0.099	-\$1,783	-\$2	-\$1,955	\$170
MJRLE	30,297	\$4,677	\$2,213	23,645	\$4,585	\$2,828	-\$708	-15.1%	<0.001	-\$1,009	-\$407	-\$1,067	-\$349
MJRUE	4,455	\$2,388	\$1,354	4,732	\$2,712	\$1,601	\$78 †	3.2%	0.726	-\$288	\$443	-\$359	\$514
PCI	3,516	\$1,546	\$1,049	2,408	\$1,691	\$1,234	-\$40	-2.6%	0.815	-\$328	\$247	-\$384	\$303
Spinal Fusion	5,974	\$2,637	\$1,681	4,615	\$2,773	\$2,083	-\$266 †	-10.1%	0.226	-\$629	\$96	-\$699	\$167

Note: See the first page of this appendix for data sources and more information.

Exhibit F.37: Impact of BPCI Advanced on IRF Payments Through 90-day PDP, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,970	\$584	\$732	4,104	\$601	\$702	\$46	7.9%	0.732	-\$178	\$271	-\$222	\$314
Cardiac Arrhythmia	6,841	\$485	\$559	5,475	\$498	\$630	-\$59	-12.1%	0.553	-\$222	\$105	-\$253	\$136
Cellulitis	2,354	\$377	\$736	1,788	\$390	\$702	\$48	12.6%	0.725	-\$177	\$272	-\$220	\$315
COPD, Bronchitis, & Asthma	5,991	\$406	\$471	4,711	\$338	\$322	\$81	20.0%	0.306	-\$49	\$211	-\$75	\$237
CHF	9,229	\$535	\$626	7,218	\$418	\$516	-\$6	-1.1%	0.943	-\$143	\$131	-\$170	\$158
GI Hemorrhage	7,477	\$467	\$659	6,518	\$420	\$678	-\$66	-14.0%	0.482	-\$220	\$89	-\$249	\$118
GI Obstruction	2,758	\$315	\$339	2,178	\$275	\$315	-\$16 ‡	-5.2%	0.876	-\$189	\$157	-\$223	\$190
Renal Failure	6,437	\$606	\$786	6,077	\$653	\$1,092	-\$259	-42.7%	0.040	-\$465	-\$52	-\$505	-\$12
Sepsis	31,508	\$650	\$850	27,250	\$617	\$786	\$30	4.7%	0.719	-\$108	\$169	-\$135	\$196
SPRI	23,678	\$499	\$672	18,601	\$530	\$626	\$77	15.5%	0.330	-\$53	\$208	-\$79	\$233
Stroke	5,514	\$6,324	\$7,023	4,504	\$5,590	\$6,781	-\$492	-7.8%	0.201	-\$1,128	\$143	-\$1,251	\$266
UTI	6,506	\$772	\$891	4,676	\$704	\$1,098	-\$275	-35.7%	0.085	-\$538	-\$13	-\$589	\$39

Note: See the first page of this appendix for data sources and more information.

Exhibit F.38: Impact of BPCI Advanced on IRF Payments Through 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,303	\$3,992	\$3,484	7,281	\$3,639	\$5,584	-\$2,452	-61.4%	<0.001	-\$3,231	-\$1,673	-\$3,382	-\$1,523
MJRLE	30,297	\$1,271	\$600	23,645	\$1,219	\$1,266	-\$718	-56.5%	<0.001	-\$951	-\$485	-\$996	-\$440
MJRUE	4,455	\$597	\$353	4,732	\$417	\$371	-\$198	-33.2%	0.038	-\$354	-\$42	-\$385	-\$11
PCI	3,516	\$390	\$576	2,408	\$407	\$478	\$115	29.5%	0.203	-\$34	\$264	-\$63	\$293
Spinal Fusion	5,974	\$2,430	\$1,721	4,615	\$2,683	\$2,728	-\$754	-31.0%	0.021	-\$1,286	-\$221	-\$1,390	-\$118

Note: See the first page of this appendix for data sources and more information.

Exhibit F.39: Impact of BPCI Advanced on HH Payments Through 90-day PDP, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,970	\$1,109	\$1,175	4,104	\$1,094	\$1,117	\$43	3.9%	0.397	-\$41	\$127	-\$57	\$143
Cardiac Arrhythmia	6,841	\$984	\$1,013	5,475	\$998	\$1,036	-\$8	-0.9%	0.849	-\$81	\$64	-\$95	\$79
Cellulitis	2,354	\$1,409	\$1,800	1,788	\$1,369	\$1,720	\$40	2.8%	0.605	-\$88	\$169	-\$114	\$194
COPD, Bronchitis, & Asthma	5,991	\$1,136	\$1,219	4,711	\$1,111	\$1,249	-\$53 ‡	-4.7%	0.243	-\$129	\$22	-\$144	\$37
CHF	9,229	\$1,422	\$1,583	7,218	\$1,422	\$1,583	\$0	0.0%	0.997	-\$103	\$104	-\$123	\$124
GI Hemorrhage	7,477	\$978	\$1,045	6,518	\$964	\$1,048	-\$18	-1.8%	0.680	-\$88	\$53	-\$102	\$67
GI Obstruction	2,758	\$718	\$775	2,178	\$693	\$721	\$29 ‡	4.1%	0.493	-\$42	\$101	-\$56	\$115
Renal Failure	6,437	\$1,291	\$1,462	6,077	\$1,247	\$1,476	-\$58	-4.5%	0.297	-\$150	\$34	-\$168	\$52
Sepsis	31,508	\$1,161	\$1,321	27,250	\$1,102	\$1,259	\$3 ‡	0.2%	0.941	-\$57	\$63	-\$69	\$74
SPRI	23,678	\$1,208	\$1,266	18,601	\$1,203	\$1,188	\$72	6.0%	0.080	\$4	\$140	-\$9	\$153
Stroke	5,514	\$1,686	\$1,793	4,504	\$1,611	\$1,618	\$99	5.9%	0.199	-\$28	\$226	-\$53	\$251
UTI	6,506	\$1,551	\$1,670	4,676	\$1,547	\$1,600	\$66	4.2%	0.190	-\$17	\$148	-\$33	\$164

Note: See the first page of this appendix for data sources and more information.

Exhibit F.40: Impact of BPCI Advanced on HH Payments Through 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,303	\$2,073	\$2,208	7,281	\$2,069	\$2,225	-\$21	-1.0%	0.711	-\$113	\$71	-\$131	\$89
MJRLE	30,297	\$2,168	\$1,336	23,645	\$2,097	\$1,757	-\$493	-22.7%	<0.001	-\$637	-\$349	-\$665	-\$321
MJRUE	4,455	\$1,285	\$837	4,732	\$1,246	\$1,101	-\$303	-23.6%	0.003	-\$471	-\$135	-\$504	-\$102
PCI	3,516	\$763	\$753	2,408	\$647	\$707	-\$70	-9.2%	0.225	-\$166	\$25	-\$185	\$44
Spinal Fusion	5,974	\$1,262	\$1,151	4,615	\$1,407	\$1,367	-\$71	-5.7%	0.437	-\$223	\$80	-\$253	\$110

Note: See the first page of this appendix for data sources and more information.

Exhibit F.41: Impact of BPCI Advanced on Readmissions Payments Through 90-day PDP, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,970	\$5,342	\$5,263	4,104	\$5,067	\$5,175	-\$187	-3.5%	0.477	-\$620	\$247	-\$705	\$331
Cardiac Arrhythmia	6,841	\$3,768	\$3,803	5,475	\$3,719	\$3,496	\$258	6.8%	0.072	\$22	\$493	-\$23	\$539
Cellulitis	2,354	\$3,701	\$3,878	1,788	\$3,550	\$3,901	-\$174	-4.7%	0.510	-\$610	\$263	-\$695	\$348
COPD, Bronchitis, & Asthma	5,991	\$4,255	\$4,009	4,711	\$4,189	\$4,165	-\$222	-5.2%	0.203	-\$509	\$65	-\$565	\$121
CHF	9,229	\$5,587	\$5,473	7,218	\$5,332	\$5,475	-\$257	-4.6%	0.105	-\$518	\$4	-\$568	\$55
GI Hemorrhage	7,477	\$3,904	\$4,050	6,518	\$3,924	\$4,342	-\$272	-7.0%	0.126	-\$565	\$21	-\$622	\$77
GI Obstruction	2,758	\$3,476	\$3,522	2,178	\$3,382	\$3,523	-\$95	-2.7%	0.770	-\$635	\$444	-\$740	\$549
Renal Failure	6,437	\$4,408	\$4,184	6,077	\$4,229	\$4,451	-\$445	-10.1%	0.022	-\$764	-\$126	-\$826	-\$64
Sepsis	31,508	\$4,172	\$4,486	27,250	\$4,336	\$4,602	\$49	1.2%	0.650	-\$128	\$225	-\$162	\$259
SPRI	23,678	\$3,718	\$3,694	18,601	\$3,654	\$3,693	-\$63	-1.7%	0.539	-\$233	\$107	-\$266	\$139
Stroke	5,514	\$2,725	\$2,530	4,504	\$2,670	\$2,662	-\$188	-6.9%	0.228	-\$445	\$69	-\$496	\$120
UTI	6,506	\$3,567	\$3,552	4,676	\$3,618	\$4,081	-\$477	-13.4%	0.006	-\$760	-\$195	-\$815	-\$140

Note: See the first page of this appendix for data sources and more information.

Exhibit F.42: Impact of BPCI Advanced on Readmissions Payments Through 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,303	\$2,662	\$2,579	7,281	\$2,655	\$2,566	\$6	0.2%	0.965	-\$214	\$226	-\$257	\$268
MJRLE	30,297	\$1,265	\$1,155	23,645	\$1,310	\$1,190	\$11	0.9%	0.834	-\$75	\$97	-\$92	\$113
MJRUE	4,455	\$974	\$816	4,732	\$873	\$763	-\$48	-5.0%	0.568	-\$189	\$92	-\$216	\$119
PCI	3,516	\$3,558	\$3,466	2,408	\$3,507	\$3,518	-\$103	-2.9%	0.749	-\$634	\$429	-\$739	\$533
Spinal Fusion	5,974	\$1,749	\$1,911	4,615	\$1,604	\$1,894	-\$128	-7.3%	0.401	-\$380	\$124	-\$429	\$173

Note: See the first page of this appendix for data sources and more information.

Exhibit F.43: Impact of BPCI Advanced on Proportion of Episodes First Discharged to Institutional PAC Setting, Medical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,970	21.9%	16.1%	4,104	22.0%	16.6%	-0.29 pp	-1.3%	0.779	-1.96 pp	1.39 pp	-2.28 pp	1.71 pp
Cardiac Arrhythmia	6,841	14.5%	11.6%	5,475	14.8%	12.1%	-0.13 pp	-0.9%	0.850	-1.29 pp	1.02 pp	-1.51 pp	1.25 pp
Cellulitis	2,354	22.3%	18.7%	1,788	22.5%	18.8%	-0.01 pp	0.0%	0.996	-2.15 pp	2.14 pp	-2.56 pp	2.55 pp
COPD, Bronchitis, & Asthma	5,991	13.5%	9.5%	4,711	13.2%	9.9%	-0.67 pp	-5.0%	0.326	-1.80 pp	0.45 pp	-2.02 pp	0.67 pp
CHF	9,229	23.0%	17.1%	7,218	23.4%	17.3%	0.11 pp	0.5%	0.867	-0.96 pp	1.18 pp	-1.17 pp	1.39 pp
GI Hemorrhage	7,477	17.3%	14.7%	6,518	18.5%	16.6%	-0.57 pp	-3.3%	0.483	-1.89 pp	0.76 pp	-2.15 pp	1.02 pp
GI Obstruction	2,758	11.7%	8.5%	2,178	11.2%	9.1%	-1.15 pp	-9.8%	0.167	-2.52 pp	0.22 pp	-2.78 pp	0.48 pp
Renal Failure	6,437	29.55%	26.1%	6,077	30.1%	26.5%	0.23 pp ‡	0.8%	0.836	-1.61 pp	2.08 pp	-1.96 pp	2.43 pp
Sepsis	31,508	33.3%	27.9%	27,250	32.2%	27.6%	-0.77 pp	-2.3%	0.342	-2.11 pp	0.56 pp	-2.37 pp	0.82 pp
SPRI	23,678	27.0%	20.6%	18,601	25.9%	21.3%	-1.74 pp	-6.5%	0.041	-3.15 pp	-0.34 pp	-3.42 pp	-0.07 pp
Stroke	5,514	49.4%	43.1%	4,504	50.0%	43.4%	0.23 pp	0.5%	0.822	-1.45 pp	1.92 pp	-1.78 pp	2.24 pp
UTI	6,506	34.4%	29.3%	4,676	34.4%	31.9%	-2.56 pp	-7.5%	0.036	-4.57 pp	-0.55 pp	-4.96 pp	-0.17 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.44: Impact of BPCI Advanced on Proportion of Episodes First Discharged to Institutional PAC Setting, Surgical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,303	87.5%	76.3%	7,281	87.7%	80.7%	-4.24 pp	-4.8%	<0.001	-6.00 pp	-2.48 pp	-6.33 pp	-2.14 pp
MJRLE	30,297	41.9%	16.8%	23,645	39.5%	21.3%	-6.90 pp	-16.5%	<0.001	-9.29 pp	-4.51 pp	-9.75 pp	-4.05 pp
MJRUE	4,455	16.0%	7.7%	4,732	17.4%	9.3%	-0.28 pp	-1.8%	0.815	-2.28 pp	1.71 pp	-2.66 pp	2.10 pp
PCI	3,516	8.6%	6.6%	2,408	9.0%	6.9%	0.12 pp	1.5%	0.887	-1.31 pp	1.56 pp	-1.59 pp	1.84 pp
Spinal Fusion	5,974	29.2%	15.9%	4,615	30.4%	22.0%	-4.94 pp ‡	-16.9%	0.004	-7.80 pp	-2.09 pp	-8.34 pp	-1.54 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.45: Impact of BPCI Advanced on Number of Days in SNF Through the 90-day PDP, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	876	32.5	28.3	722	31.4	30.6	-3.43	-10.6%	0.008	-5.56	-1.31	-5.97	-0.90
Cardiac Arrhythmia	936	31.7	28.6	768	32.8	29.8	-0.05	-0.2%	0.967	-2.12	2.02	-2.52	2.42
Cellulitis	572	34.8	33.3	428	36.6	36.7	-1.65	-4.7%	0.384	-4.78	1.48	-5.40	2.10
COPD, Bronchitis, & Asthma	828	30.2	28.5	686	30.7	27.5	1.45	4.8%	0.284	-0.78	3.69	-1.22	4.12
CHF	1,936	31.1	28.6	1,567	30.7	28.5	-0.31	-1.0%	0.768	-2.04	1.42	-2.37	1.76
GI Hemorrhage	1,241	34.1	30.8	1,244	35.0	31.0	0.67	2.0%	0.545	-1.16	2.50	-1.51	2.85
GI Obstruction	270	34.2	30.3	236	33.5	32.4	-2.76	-8.1%	0.254	-6.74	1.23	-7.52	2.00
Renal Failure	1,897	34.8	33.0	1,730	35.1	33.1	0.19	0.5%	0.859	-1.57	1.95	-1.91	2.29
Sepsis	8,862	34.7	32.6	7,847	34.5	32.8	-0.33	-0.9%	0.621	-1.42	0.76	-1.63	0.98
SPRI	5,607	33.6	31.3	4,371	33.3	31.3	-0.28	-0.8%	0.732	-1.66	1.09	-1.92	1.35
Stroke	1,354	40.1	36.0	1,216	40.9	37.9	-1.06	-2.6%	0.332	-2.87	0.74	-3.22	1.10
UTI	2,146	36.7	34.0	1,601	37.1	34.1	0.27	0.7%	0.803	-1.51	2.05	-1.86	2.40

Note: See the first page of this appendix for data sources and more information.

Exhibit F.46: Impact of BPCI Advanced on Number of Days in SNF Through the 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	5,963	45.2	36.5	4,476	44.2	39.2	-3.69	-8.2%	<0.001	-5.18	-2.20	-5.47	-1.91
MJRLE	4,762	24.0	18.8	4,245	24.1	22.1	-3.13	-13.1%	<0.001	-4.31	-1.95	-4.54	-1.73
MJRUE	289	29.7	24.9	355	29.6	27.4	-2.67	-9.0%	0.169	-5.86	0.52	-6.48	1.14
PCI	241	29.2	24.6	179	30.4	26.7	-0.95	-3.3%	0.699	-5.05	3.14	-5.86	3.95
Spinal Fusion	657	23.7	21.7	666	24.2	22.3	-0.09	-0.4%	0.942	-2.08	1.90	-2.47	2.29

Note: See the first page of this appendix for data sources and more information.

Exhibit F.47: Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Medical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,914	34.7%	30.9%	4,044	34.0%	30.0%	0.17 pp	0.5%	0.883	-1.71 pp	2.05 pp	-2.07 pp	2.41 pp
Cardiac Arrhythmia	6,778	30.2%	27.1%	5,440	30.3%	26.7%	0.46 pp	1.5%	0.623	-1.08 pp	2.01 pp	-1.38 pp	2.30 pp
Cellulitis	2,286	29.7%	27.1%	1,768	29.0%	28.2%	-1.78 pp	-6.0%	0.251	-4.34 pp	0.77 pp	-4.83 pp	1.26 pp
COPD, Bronchitis, & Asthma	5,904	33.9%	30.4%	4,656	34.0%	31.9%	-1.31 pp	-3.9%	0.218	-3.05 pp	0.44 pp	-3.38 pp	0.77 pp
CHF	9,131	40.2%	35.4%	7,158	38.3%	35.8%	-2.21 pp	-5.5%	0.012	-3.66 pp	-0.76 pp	-3.94 pp	-0.48 pp
GI Hemorrhage	7,410	29.1%	28.1%	6,456	29.9%	29.0%	-0.07 pp	-0.3%	0.941	-1.73 pp	1.58 pp	-2.04 pp	1.90 pp
GI Obstruction	2,728	26.4%	24.3%	2,151	26.5%	24.4%	0.03 pp	0.1%	0.981	-2.18 pp	2.24 pp	-2.60 pp	2.67 pp
Renal Failure	6,370	33.8%	31.0%	6,018	33.0%	32.5%	-2.28 pp	-6.7%	0.013	-3.78 pp	-0.78 pp	-4.07 pp	-0.49 pp
Sepsis	31,257	30.0%	28.6%	27,012	31.0%	30.0%	-0.46 pp	-1.5%	0.380	-1.31 pp	0.40 pp	-1.48 pp	0.56 pp
SPRI	23,496	28.4%	25.9%	18,487	28.6%	26.4%	-0.39 pp	-1.4%	0.528	-1.39 pp	0.62 pp	-1.59 pp	0.81 pp
Stroke	5,482	24.4%	21.6%	4,469	24.2%	22.4%	-0.94 pp	-3.9%	0.274	-2.36 pp	0.48 pp	-2.63 pp	0.75 pp
UTI	6,463	29.9%	27.9%	4,663	31.5%	31.2%	-1.78 pp	-5.9%	0.085	-3.48 pp	-0.08 pp	-3.81 pp	0.25 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.48: Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Surgical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,295	22.5%	20.3%	7,276	22.2%	20.0%	0.06 pp	0.2%	0.939	-1.15 pp	1.26 pp	-1.38 pp	1.49 pp
MJRLE	30,292	11.0%	8.9%	23,632	11.2%	9.1%	0.05 pp	0.5%	0.879	-0.53 pp	0.63 pp	-0.64 pp	0.74 pp
MJRUE	4,453	9.4%	14.1%	4,727	9.8%	15.1%	-0.70 pp	-7.5%	0.809	-5.50 pp	4.09 pp	-6.42 pp	5.01 pp
PCI	3,495	25.9%	22.2%	2,396	26.0%	22.2%	0.09 pp	0.3%	0.934	-1.66 pp	1.84 pp	-2.00 pp	2.18 pp
Spinal Fusion	5,970	13.5%	12.4%	4,613	12.7%	12.2%	-0.53 pp	-3.9%	0.497	-1.81 pp	0.75 pp	-2.05 pp	0.99 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.49: Impact of BPCI Advanced on Mortality During the Anchor Stay Through the 90-day PDP, Medical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
AMI	4,898	18.5%	18.6%	4,032	18.8%	18.5%	0.32 pp	1.7%	0.741	-1.28 pp	1.92 pp	-1.59 pp	2.23 pp
Cardiac Arrhythmia	6,849	10.6%	10.0%	5,491	10.5%	10.6%	-0.63 pp	-6.0%	0.196	-1.44 pp	0.17 pp	-1.59 pp	0.33 pp
Cellulitis	2,285	7.6%	7.4%	1,760	7.2%	6.8%	0.25 pp	3.3%	0.748	-1.04 pp	1.55 pp	-1.29 pp	1.80 pp
COPD, Bronchitis, & Asthma	5,900	9.3%	8.3%	4,643	9.2%	8.4%	-0.16 pp	-1.8%	0.776	-1.11 pp	0.78 pp	-1.29 pp	0.96 pp
CHF	9,285	21.2%	18.7%	7,325	20.7%	19.2%	-0.94 pp	-4.5%	0.292	-2.41 pp	0.53 pp	-2.70 pp	0.81 pp
GI Hemorrhage	7,510	12.7%	11.8%	6,530	12.1%	11.5%	-0.31 pp ‡	-2.5%	0.621	-1.35 pp	0.73 pp	-1.55 pp	0.93 pp
GI Obstruction	2,762	10.4%	8.7%	2,172	10.7%	8.6%	0.44 pp	4.2%	0.575	-0.85 pp	1.72 pp	-1.09 pp	1.97 pp
Renal Failure	6,465	19.88%	20.6%	6,155	20.8%	20.9%	0.67 pp	3.4%	0.415	-0.68 pp	2.02 pp	-0.94 pp	2.27 pp
Sepsis	35,235	29.8%	28.1%	30,765	27.6%	27.8%	-1.86 pp	-6.2%	0.019	-3.17 pp	-0.55 pp	-3.42 pp	-0.30 pp
SPRI	24,821	20.7%	18.9%	19,454	20.2%	19.5%	-1.14 pp	-5.5%	0.058	-2.13 pp	-0.15 pp	-2.32 pp	0.04 pp
Stroke	5,676	20.8%	18.5%	4,719	21.7%	20.4%	-0.93 pp	-4.5%	0.397	-2.74 pp	0.88 pp	-3.09 pp	1.22 pp
UTI	6,393	12.9%	14.8%	4,611	12.9%	14.3%	0.53 pp	4.1%	0.453	-0.63 pp	1.70 pp	-0.86 pp	1.92 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit F.50: Impact of BPCI Advanced on Mortality During the Anchor Stay Through the 90-day PDP, Surgical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	BPCI Advanced			Comparison			DiD	DiD as a Percent	P-Value	90% LCI	90% UCI	95% LCI	95% UCI
	MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean							
Hip & Femur Procedures	9,180	12.6%	12.3%	7,160	12.6%	12.4%	-0.18 pp	-1.4%	0.755	-1.10 pp	0.75 pp	-1.28 pp	0.93 pp
MJRLE	30,219	2.2%	2.3%	23,607	2.2%	2.2%	0.09 pp	4.1%	0.570	-0.17 pp	0.35 pp	-0.22 pp	0.40 pp
PCI	3,564	6.2%	6.8%	2,449	5.8%	5.4%	0.98 pp	15.8%	0.240	-0.39 pp	2.36 pp	-0.65 pp	2.62 pp
Spinal Fusion	5,983	1.1%	1.4%	4,619	1.0%	1.0%	0.21 pp	19.6%	0.206	-0.06 pp	0.49 pp	-0.12 pp	0.55 pp

Note: See the first page of this appendix for data sources and more information.

Appendix G: Tables of Parallel Trends Tests Results

The following tables display the risk-adjusted parallel trends tests results associated with the impact estimates for all payment, utilization, and quality measures evaluated, as well as the results associated with the analyses of beneficiaries from populations that have been historically underserved for total episode payments, readmissions, and mortality. As described in **Appendix C**, we tested the null hypothesis that BPCI Advanced participants and comparison hospitals had parallel trends during the baseline period at the 10% level of significance. We reject the null hypothesis that there were parallel trends in the baseline at the 10% level if the p-value is greater than 0.10. Based on this threshold, we anticipate that for one in 10 outcome measures, we would reject the null hypothesis of parallel trends based on chance. Total allowed payments are Medicare Parts A and B payments that include beneficiary cost sharing, while total paid payments exclude beneficiary cost sharing. All results are based on the BPCI Advanced evaluation team’s analysis of Medicare claims and enrollment data for episodes with anchor stays or procedures beginning April 1, 2013 and ending on or before December 31, 2017 (baseline period), episodes with anchor stays or procedures beginning October 1, 2018 and ending on or before December 31, 2019 (Model Years 1 and 2), and episodes with anchor stays or procedures beginning January 1, 2020 and ending on or before December 31, 2020 (Model Year 3) for BPCI Advanced episode initiators and matched comparison providers. We use a “‡” symbol to denote results where we reject the null hypothesis that BPCI Advanced and matched comparison providers had parallel trends in the baseline period for this outcome at the 10% level of significance.

We also present the quarterly risk-adjusted trends for BPCI Advanced episode initiators and the comparison group for total episode payments, total paid payments, the share of episodes first discharged to an institutional PAC setting, unplanned readmissions during the 90-day post-discharge period (PDP), and mortality during the anchor stay or procedures or during the 90-day PDP for each clinical episode grouping. The trends were calculated using episodes beginning during the second quarter of 2013 through episodes ending during the fourth quarter of 2017 and have been risk adjusted for differences in patient mix, clinical severity, and provider characteristics. (See **Appendix C** for additional details of outcome definitions.)

Please refer to the following abbreviations, which are used throughout this appendix:

- AMI = acute myocardial infarction
- CHF = congestive heart failure
- COPD = chronic obstructive pulmonary disease
- GI = gastrointestinal
- HH = home health
- IRF = inpatient rehabilitation facility
- MJRLE = major joint replacement of the lower extremity
- OP = outpatient
- PAC = post-acute care
- PCI = percutaneous coronary intervention
- PDP = post-discharge period following the anchor stay or procedure
- PP = percentage point
- SNF = skilled nursing facility
- SPRI = simple pneumonia and respiratory infections
- UTI = urinary tract infection

A. Pooled Impact Estimates

Exhibit G.1: Results of Parallel Trends Test, Impact Estimates, Payment Outcomes, BPCI Advanced Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Total Allowed Payments		Total Paid Payments		SNF Payments		IRF Payments		HH Payments		Readmissions Payments	
	Linear Trend Coefficient	P-Value										
All Clinical Episodes	-\$21 ‡	<0.001	-\$19 ‡	<0.001	-\$9 ‡	0.010	\$0	0.881	-\$2 ‡	0.077	-\$5 ‡	0.006
Medical	-\$23 ‡	<0.001	-\$20 ‡	<0.001	-\$9 ‡	0.010	\$0	0.820	-\$1	0.286	-\$6 ‡	0.006
Hospital	-\$17 ‡	0.010	-\$14 ‡	0.009	-\$6	0.120	\$0	0.873	-\$1	0.430	-\$4 ‡	0.097
PGP	-\$20	0.150	-\$18	0.156	-\$11	0.150	\$0	0.960	-\$1	0.660	-\$8 ‡	0.078
Surgical	-\$14	0.270	-\$13	0.278	-\$6	0.450	\$1	0.926	-\$5	0.113	-\$1	0.639
Hospital	-\$11	0.550	-\$10	0.569	\$4	0.720	-\$2	0.799	-\$2	0.424	-\$3	0.565
PGP	-\$12	0.460	-\$11	0.479	-\$14	0.220	\$5	0.585	-\$7	0.143	\$1	0.807

Note: See the first page of this appendix for data sources and more information.

Exhibit G.2: Results of Parallel Trends Test, Impact Estimates, Proportion of Episodes First Discharged to Institutional PAC Setting and Number of Days in SNF Through the 90-day PDP, BPCI Advanced Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Institutional PAC		SNF Days	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
All Clinical Episodes	-0.20 pp ‡	0.070	-0.03 ‡	0.061
Medical	-0.12 pp	0.166	-0.02	0.181
Hospital	-0.03 pp	0.757	-0.03 ‡	0.060
PGP	-0.28 pp	0.181	0.02	0.511
Surgical	-0.32 pp	0.428	-0.04	0.148
Hospital	0.58 pp	0.375	-0.03	0.468
PGP	-0.76 pp	0.125	-0.04	0.202

Note: See the first page of this appendix for data sources and more information.

Exhibit G.3: Results of Parallel Trends Test, Impact Estimates, Unplanned Readmissions Through the 90-day PDP and Mortality During the Anchor Stay Through the 90-day PDP, BPCI Advanced Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Readmissions		Mortality	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
All Clinical Episodes	-0.17 pp ‡	0.002	0.00 pp	0.963
Medical	-0.19 pp ‡	0.001	-0.02 pp	0.816
Hospital	-0.14 pp ‡	0.023	-0.08 pp	0.440
PGP	-0.13 pp	0.297	0.19 pp	0.329
Surgical	0.00 pp	0.979	0.15 pp	0.522
Hospital	-0.07 pp	0.749	0.18 pp	0.635
PGP	0.09 pp	0.661	0.14 pp	0.650

Note: See the first page of this appendix for data sources and more information.

B. Hospital Impact Estimates

Exhibit G.4: Results of Parallel Trends Test, Impact Estimates, Payment Outcomes, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Total Allowed Payments		Total Paid Payments		SNF Payments		IRF Payments		HH Payments		Readmissions Payments	
	Linear Trend Coefficient	P-Value										
AMI	\$4	0.842	\$3	0.865	\$13	0.254	-\$2	0.636	-\$5 ‡	0.021	\$7	0.590
Cardiac Arrhythmia	-\$1	0.949	\$1	0.953	-\$3	0.672	\$2	0.460	-\$1	0.461	-\$5	0.438
COPD, Bronchitis, & Asthma	-\$11	0.353	-\$9	0.425	-\$5	0.461	-\$1	0.595	\$0	0.798	-\$4	0.463
CHF	-\$23	0.126	-\$18	0.165	-\$17 ‡	0.039	\$0	0.931	\$5 ‡	0.011	-\$1	0.924
GI Hemorrhage	-\$27	0.156	-\$26	0.121	-\$1	0.924	-\$2	0.570	-\$3	0.132	-\$5	0.578
Renal Failure	-\$8	0.661	-\$9	0.595	\$2	0.893	\$1	0.883	\$0	0.912	\$2	0.804
Sepsis	-\$9	0.508	-\$6	0.632	-\$3	0.620	\$0	0.918	\$0	0.862	-\$8	0.101
SPRI	-\$19	0.169	-\$17	0.166	-\$7	0.409	-\$2	0.504	\$0	0.966	-\$5	0.337
Stroke	-\$34	0.133	-\$29	0.149	-\$17	0.211	-\$2	0.869	-\$1	0.552	\$0	1.000
UTI	-\$27	0.128	-\$24	0.116	-\$10	0.430	\$0	0.942	-\$2	0.241	-\$8	0.248

Note: See the first page of this appendix for data sources and more information.

Exhibit G.5: Results of Parallel Trends Test, Impact Estimates, Payment Outcomes, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Total Allowed Payments		Total Paid Payments		SNF Payments		IRF Payments		HH Payments		Readmissions Payments	
	Linear Trend Coefficient	P-Value										
CABG	-\$70	0.240	-\$72	0.206	\$12	0.488	-\$41 ‡	0.050	-\$1	0.777	-\$22	0.153
Fractures of the Femur and Hip or Pelvis	\$54	0.403	\$50	0.365	\$59	0.300	-\$30	0.342	\$1	0.882	\$18	0.408
Hip & Femur Procedures	\$51	0.208	\$49	0.158	\$15	0.723	\$24	0.437	-\$2	0.695	\$11	0.326
MRJLE	\$24	0.337	\$25	0.295	\$19	0.383	\$4	0.804	-\$6	0.335	\$7	0.327
Pacemaker	-\$59	0.127	-\$56	0.114	-\$19	0.346	-\$6	0.590	-\$1	0.864	-\$18	0.394
PCI (IP)	-\$63	0.102	-\$53	0.122	-\$28 ‡	0.030	-\$3	0.652	-\$2	0.529	-\$18	0.316
PCI (OP)	-\$13	0.470	-\$14	0.411	\$1	0.816	\$2	0.334	\$0	0.713	-\$15	0.294

Note: See the first page of this appendix for data sources and more information.

Exhibit G.6: Results of Parallel Trends Test, Impact Estimates, Proportion of Episodes First Discharged to Institutional PAC Setting and Number of Days in SNF Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Institutional PAC		SNF Days	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
AMI	0.34 pp	0.266	0.01	0.919
Cardiac Arrhythmia	0.02 pp	0.950	0.00	0.970
COPD, Bronchitis, & Asthma	-0.31 pp	0.254	-0.08 ‡	0.045
CHF	-0.25 pp	0.242	-0.05	0.231
GI Hemorrhage	-0.54 pp ‡	0.082	0.04	0.569
Renal Failure	-0.16 pp	0.462	0.02	0.675
Sepsis	0.19 pp	0.169	-0.04	0.128
SPRI	-0.01 pp	0.947	-0.04	0.248
Stroke	-0.17 pp	0.398	-0.03	0.458
UTI	-0.13 pp	0.550	-0.02	0.702

Note: See the first page of this appendix for data sources and more information.

Exhibit G.7: Results of Parallel Trends Test, Impact Estimates, Proportion of Episodes First Discharged to Institutional PAC Setting and Number of Days in SNF Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Institutional PAC		SNF Days	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
CABG	-0.21 pp	0.810	-0.01	0.887
Fractures of the Femur and Hip or Pelvis	0.70 pp	0.454	-0.05	0.614
Hip & Femur Procedures	1.42 pp ‡	0.024	-0.02	0.830
MRJLE	0.95 pp	0.307	-0.01	0.832
Pacemaker	-0.59 pp	0.411	-0.06	0.621
PCI (IP)	-1.20 pp	0.173	-0.15	0.273

Note: See the first page of this appendix for data sources and more information.

Exhibit G.8: Results of Parallel Trends Test, Impact Estimates, Unplanned Readmissions Through the 90-day PDP and Mortality During the Anchor Stay Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Readmissions		Mortality	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
AMI	0.26 pp	0.268	-0.32 pp	0.326
Cardiac Arrhythmia	-0.19 pp	0.324	-0.27 pp	0.413
COPD, Bronchitis, & Asthma	-0.03 pp	0.827	0.16 pp	0.529
CHF	-0.14 pp	0.420	0.01 pp	0.973
GI Hemorrhage	-0.06 pp	0.774	-0.42 pp	0.299
Renal Failure	0.00 pp	0.996	-0.06 pp	0.819
Sepsis	-0.26 pp ‡	0.013	0.02 pp	0.884
SPRI	-0.18 pp	0.263	-0.35 pp ‡	0.099
Stroke	-0.11 pp	0.572	-0.16 pp	0.578
UTI	-0.12 pp	0.546	-0.02 pp	0.941

Note: See the first page of this appendix for data sources and more information.

Exhibit G.9: Results of Parallel Trends Test, Impact Estimates, Unplanned Readmissions Through the 90-day PDP and Mortality During the Anchor Stay Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Readmissions		Mortality	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
CABG	-0.67 pp	0.189	1.06 pp	0.317
Fractures of the Femur and Hip or Pelvis	0.91 pp	0.290	-0.68 pp	0.544
Hip & Femur Procedures	0.18 pp	0.700	0.35 pp	0.582
MRJLE	0.39 pp	0.429	0.36 pp	0.692
Pacemaker	-0.83 pp	0.140	-0.59 pp	0.617
PCI (IP)	-0.51 pp	0.283	-0.01 pp	0.993
PCI (OP)	-0.16 pp	0.766	-0.05 pp	0.970

Note: See the first page of this appendix for data sources and more information.

C. Physician Group Practice Impact Estimates

Exhibit G.10: Results of Parallel Trends Test, Impact Estimates, Payment Outcomes, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Total Allowed Payments		Total Paid Payments		SNF Payments		IRF Payments		HH Payments		Readmissions Payments	
	Linear Trend Coefficient	P-Value										
AMI	\$37	0.324	\$36	0.297	\$5	0.811	\$4	0.661	\$1	0.722	\$32	0.111
Cardiac Arrhythmia	-\$15	0.505	-\$14	0.497	-\$17	0.199	\$6	0.251	\$0	0.955	-\$1	0.937
Cellulitis	\$66	0.120	\$54	0.168	\$17	0.582	\$13	0.146	\$1	0.786	\$12	0.535
COPD, Bronchitis, & Asthma	-\$13	0.593	-\$10	0.654	-\$19 †	0.069	\$1	0.879	\$6 †	0.067	-\$6	0.613
CHF	-\$40	0.209	-\$38	0.188	-\$12	0.412	\$1	0.859	-\$3	0.464	-\$20	0.175
GI Hemorrhage	\$4	0.855	\$5	0.817	-\$14	0.350	-\$1	0.805	-\$1	0.772	\$3	0.830
GI Obstruction	\$6	0.853	\$10	0.744	-\$13	0.428	\$13 †	0.094	\$11 †	0.009	-\$8	0.619
Renal Failure	-\$59	0.100	-\$54 †	0.093	-\$21	0.336	-\$3	0.793	-\$5	0.171	-\$15	0.299
Sepsis	-\$22	0.417	-\$19	0.430	-\$14	0.346	-\$3	0.671	-\$4 †	0.080	-\$8	0.331
SPRI	-\$22	0.455	-\$19	0.481	-\$9	0.531	-\$4	0.506	\$0	0.999	-\$6	0.531
Stroke	\$10	0.821	\$19	0.664	-\$32	0.177	\$35	0.348	\$5	0.373	\$2	0.893
UTI	-\$1	0.968	\$1	0.982	-\$9	0.765	\$13	0.193	-\$2	0.572	-\$13	0.268

Note: See the first page of this appendix for data sources and more information.

Exhibit G.11: Results of Parallel Trends Test, Impact Estimates, Payment Outcomes, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Total Allowed Payments		Total Paid Payments		SNF Payments		IRF Payments		HH Payments		Readmissions Payments	
	Linear Trend Coefficient	P-Value										
Hip & Femur Procedures	\$2	0.962	\$9	0.749	-\$24	0.460	\$28	0.254	-\$5	0.272	\$0	0.981
MJRLE	-\$12	0.522	-\$12	0.508	-\$12	0.401	\$2	0.829	-\$10	0.151	\$3	0.508
MJRUE	\$82 ‡	0.003	\$73 ‡	0.003	\$39 ‡	0.041	\$0	0.997	-\$1	0.928	\$9	0.293
PCI (IP)	-\$44	0.345	-\$36	0.400	-\$19	0.232	-\$3	0.678	-\$3	0.493	-\$20	0.390
Spinal Fusion	-\$76	0.153	-\$75	0.143	-\$33 ‡	0.030	-\$11	0.588	-\$4	0.465	\$2	0.891

Note: See the first page of this appendix for data sources and more information.

Exhibit G.12: Results of Parallel Trends Test, Impact Estimates, Proportion of Episodes First Discharged to Institutional PAC Setting and Number of Days in SNF Through the 90-day PDP, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Institutional PAC		SNF Days	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
AMI	-0.51 pp	0.412	0.03	0.773
Cardiac Arrhythmia	-0.14 pp	0.797	-0.04	0.709
Cellulitis	0.89 pp	0.187	0.1	0.441
COPD, Bronchitis, & Asthma	-0.53 pp	0.323	0.02	0.836
CHF	0.01 pp	0.980	-0.04	0.450
GI Hemorrhage	-0.46 pp	0.330	-0.03	0.739
GI Obstruction	-1.03 pp	0.251	0.18	0.296
Renal Failure	-0.80 pp ‡	0.066	0.08	0.418
Sepsis	-0.05 pp	0.891	0.03	0.544
SPRI	-0.54 pp	0.199	0.00	0.968
Stroke	-0.09 pp	0.797	-0.03	0.709
UTI	0.38 pp	0.471	0.02	0.862

Note: See the first page of this appendix for data sources and more information.

Exhibit G.13: Results of Parallel Trends Test, Impact Estimates, Proportion of Episodes First Discharged to Institutional PAC Setting and Number of Days in SNF Through the 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Institutional PAC		SNF Days	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
Hip & Femur Procedures	-0.17 pp	0.736	-0.04	0.470
MJRLE	-0.49 pp	0.425	-0.06	0.106
MJRUE	1.26 pp	0.149	0.04	0.759
PCI (IP)	-1.16 pp	0.271	-0.17	0.266
Spinal Fusion	-2.02 pp ‡	0.009	-0.03	0.705

Note: See the first page of this appendix for data sources and more information.

Exhibit G.14: Results of Parallel Trends Test, Impact Estimates, Unplanned Readmissions Through the 90-day PDP and Mortality During the Anchor Stay Through the 90-day PDP, Medical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Readmissions		Mortality	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
AMI	0.28 pp	0.583	0.09 pp	0.885
Cardiac Arrhythmia	0.36 pp	0.298	0.91 pp	0.113
Cellulitis	0.64 pp	0.276	1.19 pp	0.298
COPD, Bronchitis, & Asthma	-0.08 pp	0.794	0.41 pp	0.270
CHF	-0.17 pp	0.620	0.29 pp	0.513
GI Hemorrhage	0.21 pp	0.530	1.46 pp ‡	0.003
GI Obstruction	-0.51 pp	0.316	-0.42 pp	0.658
Renal Failure	-0.14 pp	0.681	-0.51 pp	0.242
Sepsis	-0.36 pp	0.112	0.42 pp	0.240
SPRI	-0.02 pp	0.945	-0.21 pp	0.727
Stroke	0.30 pp	0.558	-0.92 pp	0.125
UTI	0.00 pp	0.992	0.85 pp	0.113

Note: See the first page of this appendix for data sources and more information.

Exhibit G.15: Results of Parallel Trends Test, Impact Estimates, Unplanned Readmissions Through the 90-day PDP and Mortality During the Anchor Stay Through the 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Readmissions		Mortality	
	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
Hip & Femur Procedures	0.44 pp	0.163	0.12 pp	0.781
MJRLE	0.06 pp	0.853	-0.02 pp	0.977
MJRUE	-0.28 pp	0.780	N/A	N/A
PCI (IP)	-0.31 pp	0.668	1.18 pp	0.245
Spinal Fusion	0.06 pp	0.916	0.77 pp	0.657

Note: See the first page of this appendix for data sources and more information.

D. Quarterly Risk-Adjusted Trends for Pooled Clinical Episodes

Exhibit G.16: Quarterly Risk Adjusted Trends for Total Allowed Payments, Inpatient Through 90-day PDP

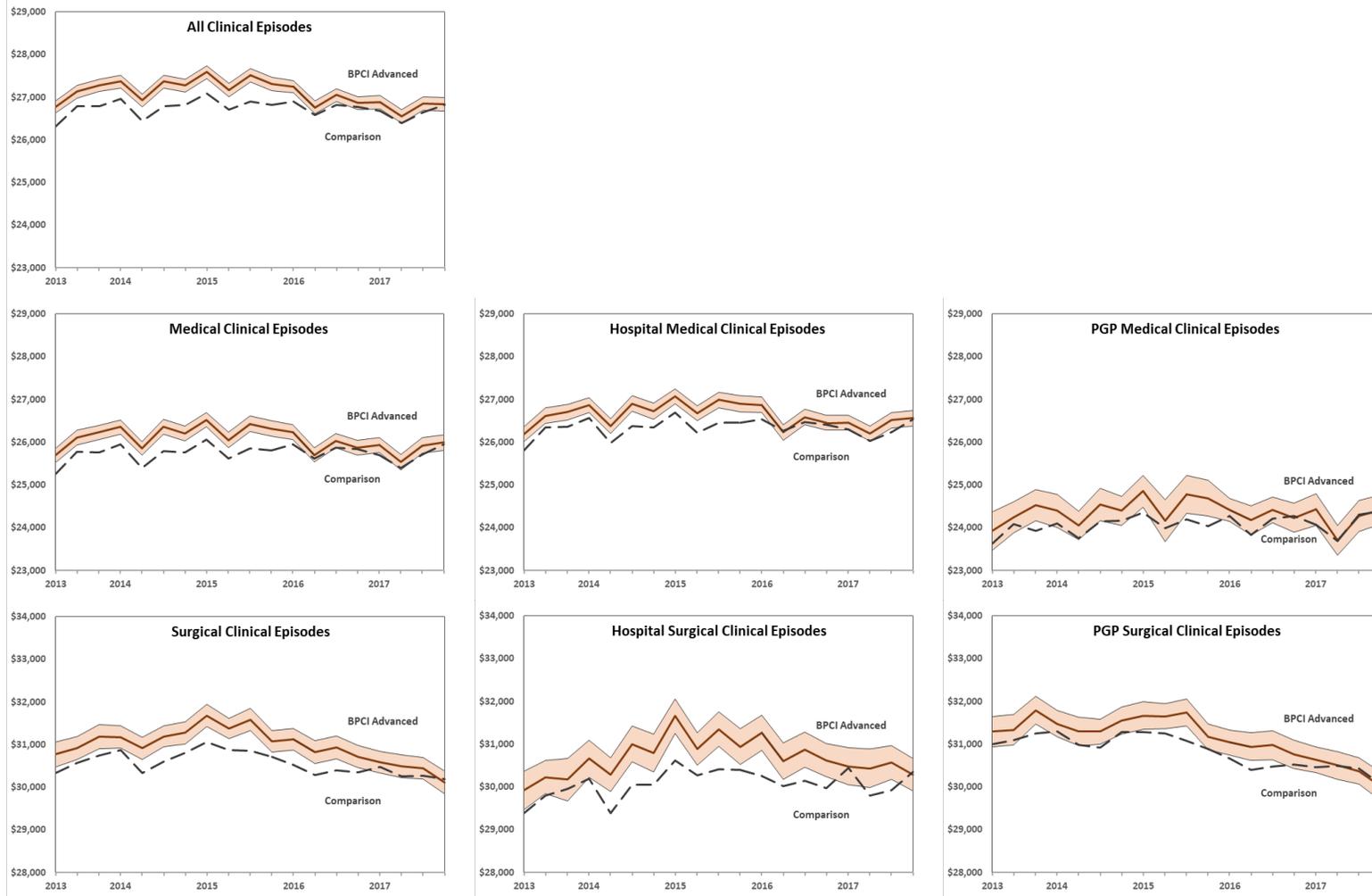


Exhibit G.17: Quarterly Risk Adjusted Trends for Total Paid Payments, Inpatient Through 90-day PDP

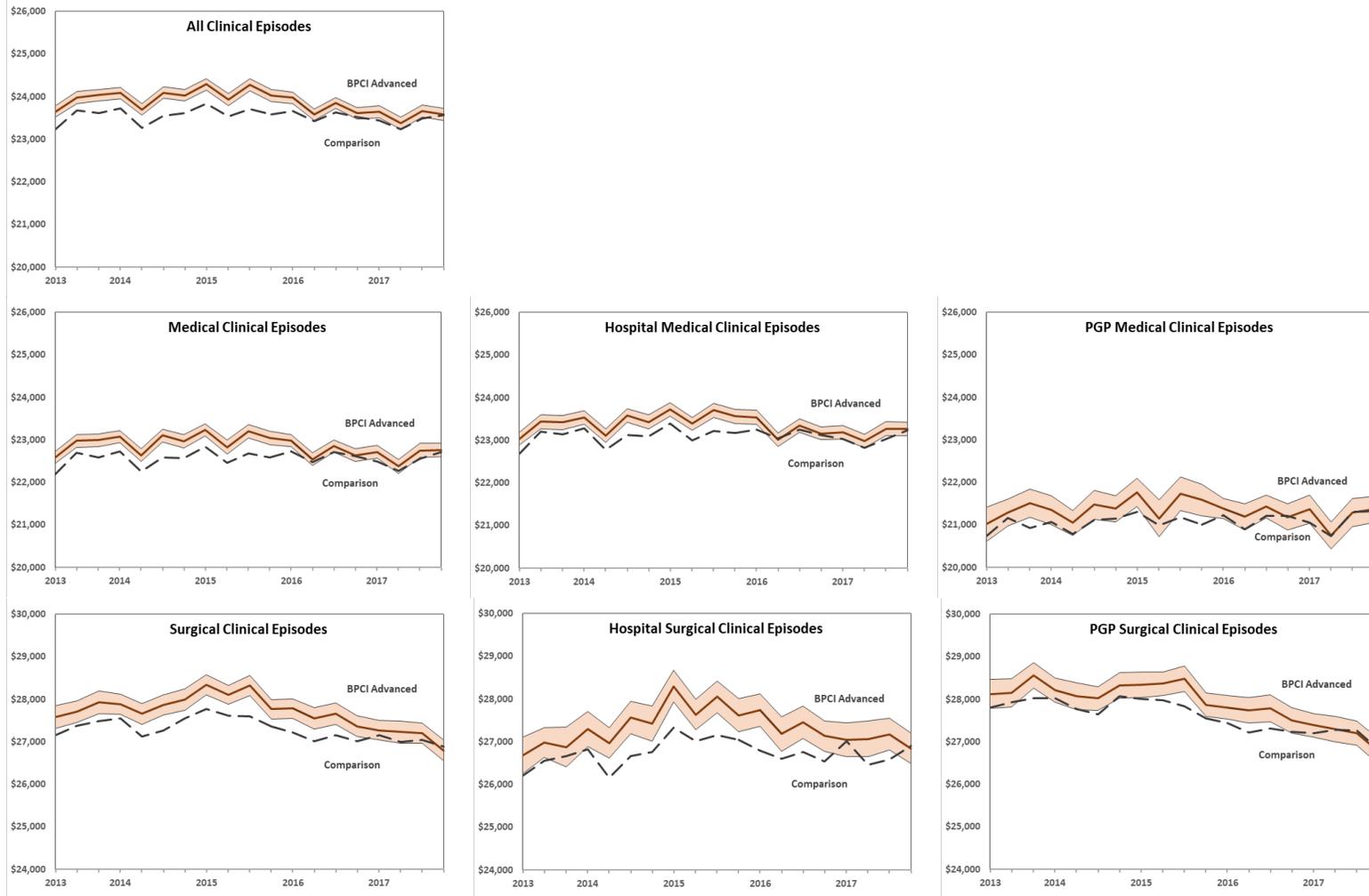


Exhibit G.18: Quarterly Risk Adjusted Trends for Proportion of Episodes Discharged to Institutional PAC

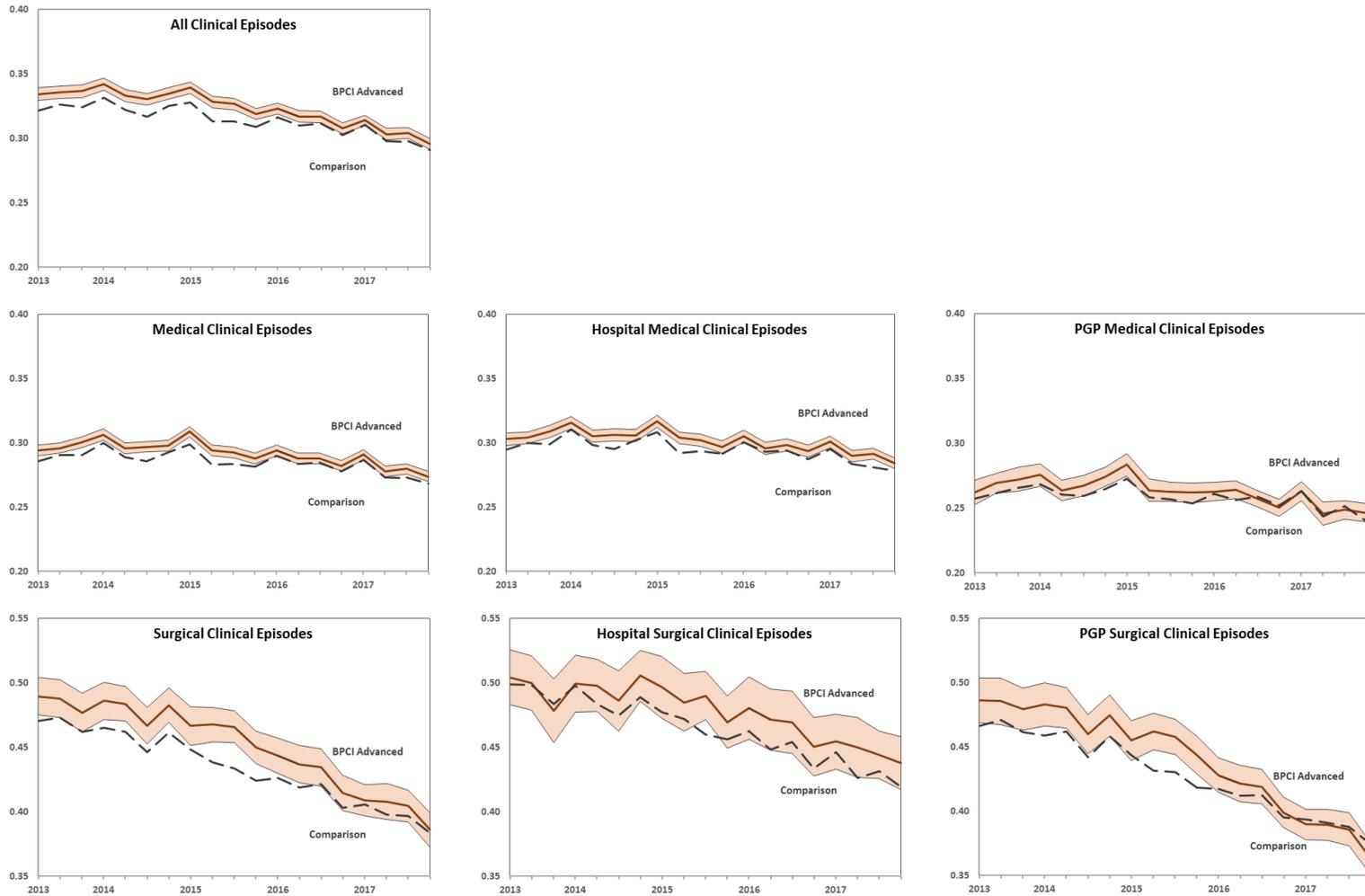


Exhibit G.19: Quarterly Risk Adjusted Trends for Unplanned Readmissions Through 90-day PDP

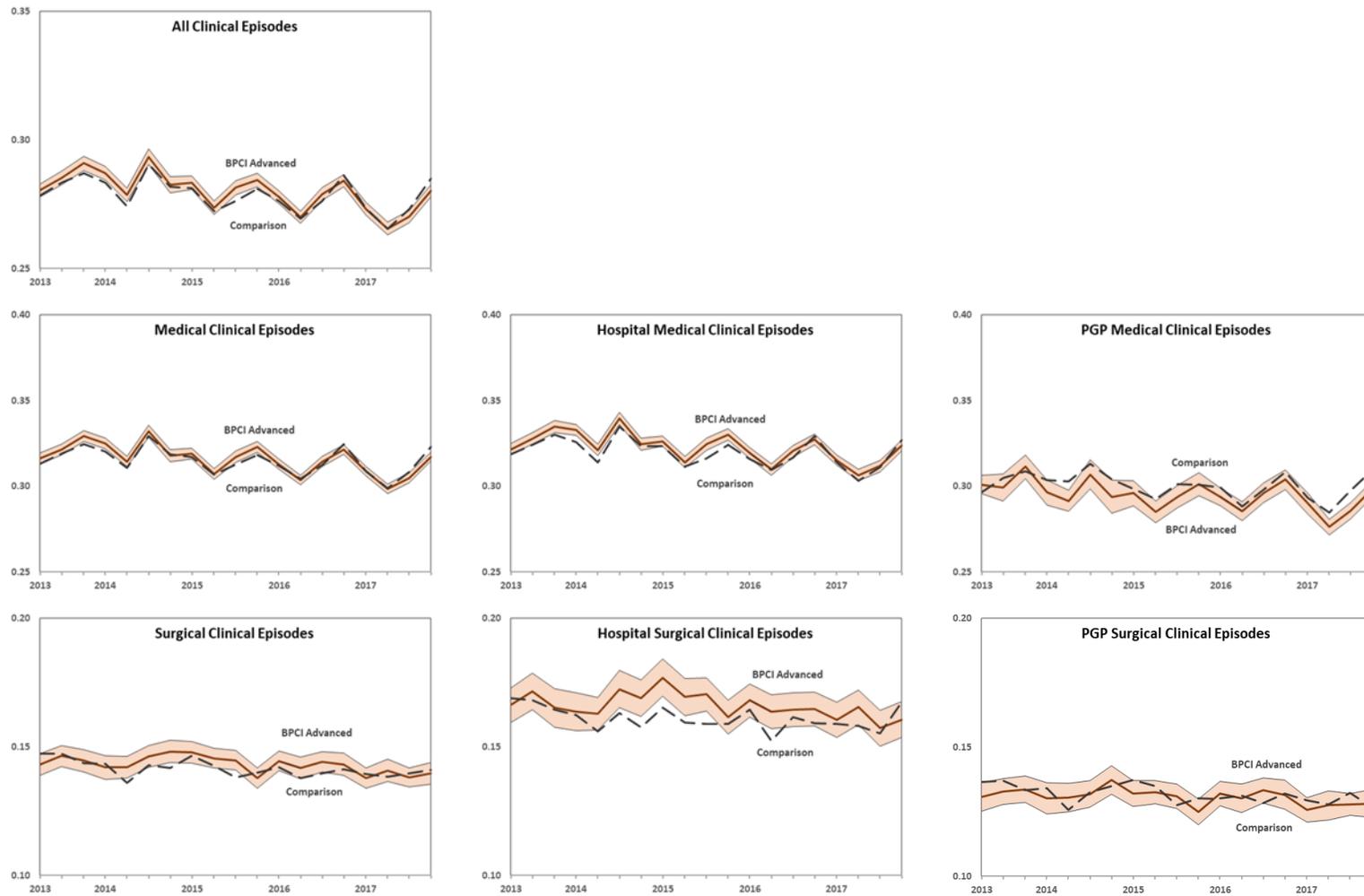
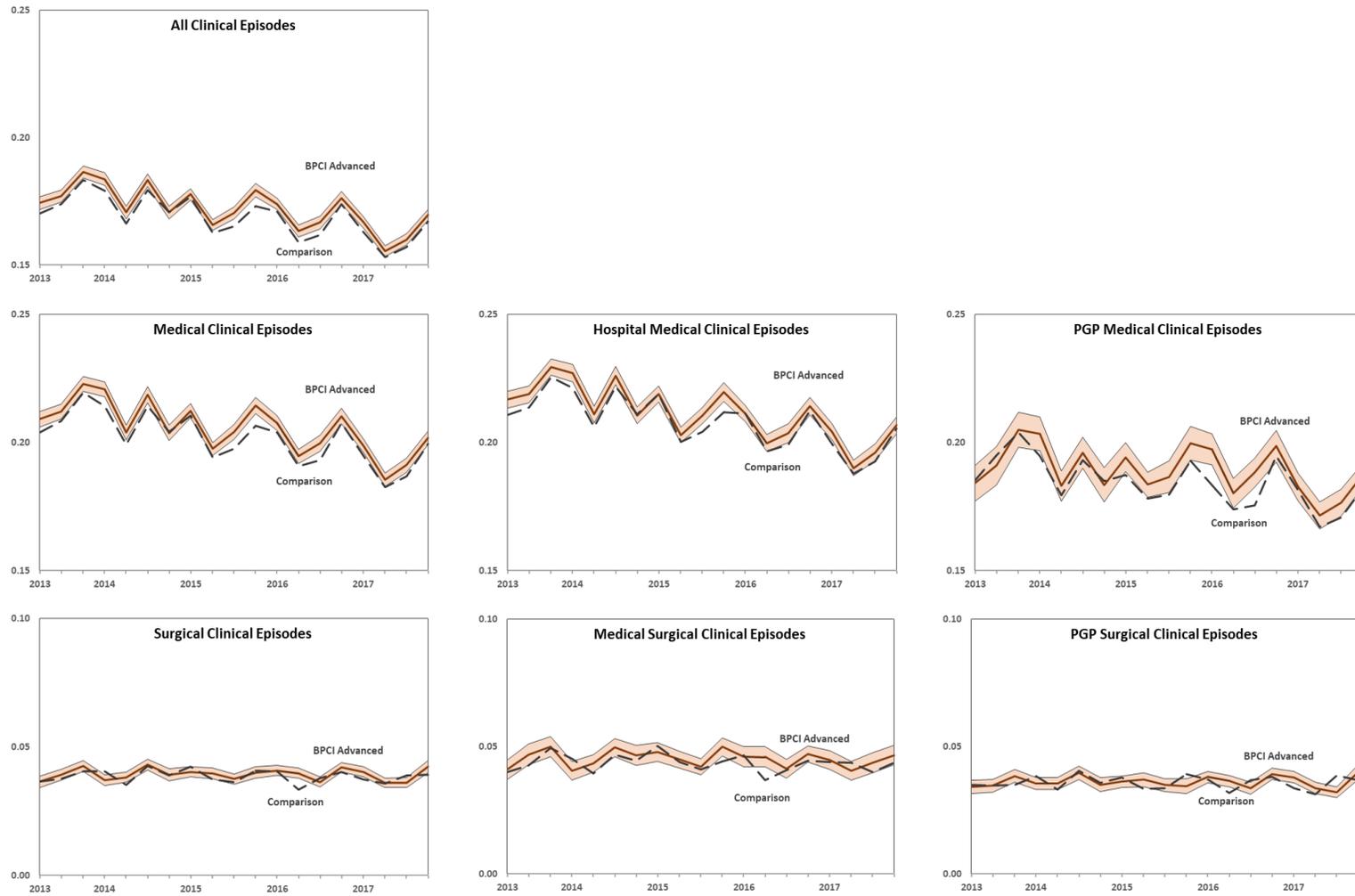


Exhibit G.20: Quarterly Risk Adjusted Trends for Mortality During Anchor Stay or 90-day PDP



E. Beneficiaries From Populations That Have Been Historically Underserved

Exhibit G.21: Parallel Trends Results by Race for Total Allowed Payments Through the 90-day PDP, Unplanned Readmissions Through the 90-day PDP, and Mortality During the Anchor Stay Through the 90-day PDP, Model Year 3, January 1, 2020 – December 31, 2020

Outcomes	Clinical Episode	Black or African American		Non-Hispanic White		Differential Change	
		Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
Total Allowed Payments	Medical	-\$29 ‡	0.035	-\$21 ‡	0.001	-\$8	0.553
	Surgical	-\$18	0.566	-\$14	0.271	-\$3	0.907
Readmissions	Medical	-0.40 ‡	0.006	-0.19 ‡	0.003	-0.21	0.164
	Surgical	0.32	0.536	-0.07	0.656	0.39	0.465
Mortality	Medical	0.03	0.872	-0.05	0.611	0.08	0.692
	Surgical	-1.01	0.423	0.19	0.452	-1.20	0.352

Note: See the first page of this appendix for data sources and more information.

Exhibit G.22: Parallel Trends Results by Dual Eligibility Status Total Allowed Payments Through the 90-day PDP, Unplanned Readmissions Through the 90-day PDP, and Mortality During the Anchor Stay Through the 90-day PDP, Model Year 3, January 1, 2020 – December 31, 2020

Outcomes	Clinical Episode	Dual Eligible		Non-Dual Eligible		Differential Change	
		Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
Total Allowed Payments	Medical	-\$22 ‡	0.030	-\$24 ‡	<0.001	\$1	0.881
	Surgical	-\$39 ‡	0.091	-\$11	0.399	-\$28	0.164
Readmissions	Medical	-0.16 ‡	0.096	-0.21 ‡	0.001	0.05	0.663
	Surgical	0.14	0.643	-0.03	0.845	0.18	0.586
Mortality	Medical	0.03	0.840	-0.04	0.706	0.07	0.665
	Surgical	1.50 ‡	0.005	-0.13	0.635	1.63 ‡	0.005

Note: See the first page of this appendix for data sources and more information.

Exhibit G.23: Parallel Trends Results by Race for Total Allowed Payments Through the 90-day PDP, Unplanned Readmissions Through the 90-day PDP, and Mortality During the 90-day PDP, Model Years 1 and 2, October 1, 2018 – December 31, 2019

Outcomes	Clinical Episode	Black or African American		Non-Hispanic White		Differential Change	
		Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
Total Allowed Payments	Medical	-\$27 ‡	0.076	-\$17 ‡	0.015	-\$10	0.506
	Surgical	-\$24	0.438	-\$4	0.801	-\$20	0.480
Readmissions	Medical	-0.37 ‡	0.010	-0.15 ‡	0.024	-0.22	0.147
	Surgical	-0.04	0.945	0.16	0.468	-0.19	0.733
Mortality	Medical	0.02	0.926	-0.07	0.435	0.09	0.696
	Surgical	-0.68	0.627	0.12	0.705	-0.80	0.580

Note: See the first page of this appendix for data sources and more information.

Exhibit G.24: Parallel Trends Results by Dual Eligibility Status Total Allowed Payments Through the 90-day PDP, Unplanned Readmissions Through the 90-day PDP, and Mortality During the 90-day PDP, Model Years 1 and 2, October 1, 2018 – December 31, 2019

Outcomes	Clinical Episode	Dual Eligible		Non-Dual Eligible		Differential Change	
		Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value	Linear Trend Coefficient	P-Value
Total Allowed Payments	Medical	-\$21 ‡	0.071	-\$17 ‡	0.012	-\$4	0.701
	Surgical	-\$25	0.294	-\$3	0.813	-\$22	0.290
Readmissions	Medical	-0.09	0.352	-0.19 ‡	0.004	0.10	0.376
	Surgical	-0.09	0.775	0.17	0.451	-0.26	0.474
Mortality	Medical	0.05	0.726	-0.08	0.413	0.13	0.431
	Surgical	0.71	0.261	-0.06	0.862	0.77	0.266

Note: See the first page of this appendix for data sources and more information.

Appendix H: Tables of Impact of BPCI Advanced–Sensitivity Results

The following tables display the risk-adjusted difference-in-differences (DiD) results for the BPCI Advanced impact estimates and the sensitivity tests to understand whether the reported impact estimates were robust with respect to the episode sample used. We tested if our results were robust while excluding episodes aligned to MSSP Track 3, MSSP Enhanced, Comprehensive End Stage Renal Disease Care Model, Next Generation ACO, and Vermont All-payer ACO (referred to as "No ACO Episodes"). We also estimated the results using the analytic sample selected under the propensity score model with no caliper (referred to as "No Caliper Comparison Group"). Medicare payments were standardized to remove the effects of geographic differences in wages, extra amounts to account for teaching programs and other policy factors. Total allowed payments are Medicare Parts A and B payments that include beneficiary cost sharing, while total paid payments exclude beneficiary cost sharing. The "DiD as a Percent" refers to the DiD estimate as a percentage of the BPCI Advanced baseline mean. Blank cells indicate there was not sufficient sample to produce a DiD estimate. All results are based on the BPCI Advanced evaluation team's analysis of Medicare claims and enrollment data for episodes with anchor stays or procedures beginning April 1, 2013 and ending on or before December 31, 2017 (baseline period) and episodes with anchor stays or procedures beginning January 1, 2020 and ending on or before December 31, 2020 (Model Year 3) for BPCI Advanced episode initiators and matched comparison providers. We use a "‡" symbol to denote results where we reject the null hypothesis that BPCI Advanced and matched comparison providers had parallel trends in the baseline period for this outcome at the 10% level of significance.

Please refer to the following abbreviations, which are used throughout this appendix:

- AMI = acute myocardial infarction
- CHF = congestive heart failure
- COPD = chronic obstructive pulmonary disease
- DiD = difference-in-differences
- GI = gastrointestinal
- HH = home health
- IRF = inpatient rehabilitation facility
- LCI = lower confidence interval
- MJRLE = major joint replacement of the lower extremity
- MY = model year
- OP = outpatient
- PAC = post-acute care
- PCI = percutaneous coronary intervention
- PDP = post-discharge period following the anchor stay or procedure
- PP = percentage point
- SNF = skilled nursing facility
- SPRI = simple pneumonia and respiratory infections
- UCI = upper confidence interval
- UTI = urinary tract infection

A. Pooled Estimates

Exhibit H.1: BPCI Advanced Impact Estimate and Sensitivity Test Results, Total Allowed Payments Through 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
All Clinical Episodes	BPCI Advanced Impact Estimate	397,625	\$26,968	\$26,340	368,486	\$26,629	\$27,030	-\$1,028 †	-\$1,205	-\$852
	No ACO Episodes	349,171	\$26,962	\$26,341	321,348	\$26,626	\$27,085	-\$1,081 †	-\$1,267	-\$895
	No Caliper Comparison Group	457,946	\$27,331	\$26,640	410,433	\$26,786	\$27,173	-\$1,078 †	-\$1,261	-\$895
Medical	BPCI Advanced Impact Estimate	318,743	\$25,973	\$25,969	303,043	\$25,651	\$26,443	-\$796 †	-\$974	-\$619
	No ACO Episodes	279,937	\$25,967	\$25,977	265,021	\$25,645	\$26,500	-\$845 †	-\$1,036	-\$654
	No Caliper Comparison Group	363,233	\$26,405	\$26,385	339,343	\$25,804	\$26,600	-\$816 †	-\$999	-\$633
Hospitals	BPCI Advanced Impact Estimate	217,564	\$26,433	\$26,536	224,595	\$26,142	\$27,002	-\$756 †	-\$950	-\$563
	No ACO Episodes	190,559	\$26,420	\$26,540	198,978	\$26,130	\$27,040	-\$790 †	-\$999	-\$581
	No Caliper Comparison Group	250,278	\$26,874	\$27,037	257,717	\$26,276	\$27,178	-\$740 †	-\$940	-\$541
PGP	BPCI Advanced Impact Estimate	101,179	\$24,388	\$24,536	78,448	\$24,137	\$24,951	-\$667	-\$1,025	-\$310
	No ACO Episodes	89,378	\$24,379	\$24,561	66,042	\$24,128	\$25,031	-\$721	-\$1,101	-\$340
	No Caliper Comparison Group	112,955	\$24,640	\$24,712	81,626	\$24,341	\$25,106	-\$692	-\$1,052	-\$333
Surgical	BPCI Advanced Impact Estimate	78,882	\$31,040	\$28,127	65,443	\$30,642	\$29,529	-\$1,800	-\$2,149	-\$1,451
	No ACO Episodes	69,234	\$31,050	\$28,123	56,327	\$30,654	\$29,584	-\$1,856	-\$2,219	-\$1,494
	No Caliper Comparison Group	94,713	\$31,110	\$28,040	71,091	\$30,809	\$29,569	-\$1,830 †	-\$2,162	-\$1,499
Hospitals	BPCI Advanced Impact Estimate	26,309	\$30,810	\$29,535	25,034	\$30,246	\$29,904	-\$933	-\$1,534	-\$331
	No ACO Episodes	23,558	\$30,863	\$29,535	21,877	\$30,285	\$30,114	-\$1,157	-\$1,740	-\$574
	No Caliper Comparison Group	27,519	\$31,442	\$30,060	26,493	\$30,759	\$30,456	-\$1,079	-\$1,655	-\$504
PGP	BPCI Advanced Impact Estimate	52,573	\$31,177	\$27,489	40,409	\$30,875	\$29,333	-\$2,147	-\$2,552	-\$1,741
	No ACO Episodes	45,676	\$31,159	\$27,465	34,450	\$30,874	\$29,312	-\$2,132	-\$2,567	-\$1,697
	No Caliper Comparison Group	67,194	\$30,942	\$27,261	44,598	\$30,827	\$29,106	-\$1,959	-\$2,332	-\$1,586

Note: See the first page of this appendix for data sources and more information.

Exhibit H.2: BPCI Advanced Impact Estimate and Sensitivity Test Results, Unplanned Readmissions Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
All Clinical Episodes	BPCI Advanced Impact Estimate	394,330	28.3%	25.9%	365,657	28.1%	26.0%	-0.25 pp ‡	-0.48 pp	-0.01 pp
	No ACO Episodes	346,226	28.3%	25.9%	318,795	28.1%	26.1%	-0.26 pp ‡	-0.51 pp	-0.01 pp
	No Caliper Comparison Group	453,981	28.3%	26.0%	407,303	28.0%	25.9%	-0.23 pp ‡	-0.46 pp	-0.01 pp
Medical	BPCI Advanced Impact Estimate	315,511	31.6%	29.1%	300,275	31.5%	29.2%	-0.23 pp ‡	-0.49 pp	0.02 pp
	No ACO Episodes	277,047	31.6%	29.1%	262,524	31.5%	29.2%	-0.25 pp ‡	-0.53 pp	0.02 pp
	No Caliper Comparison Group	359,338	31.7%	29.2%	336,274	31.4%	29.2%	-0.20 pp ‡	-0.45 pp	0.05 pp
Hospitals	BPCI Advanced Impact Estimate	215,272	32.2%	29.9%	222,494	31.8%	29.5%	0.14 pp ‡	-0.14 pp	0.42 pp
	No ACO Episodes	188,516	32.2%	29.9%	197,074	31.8%	29.5%	0.13 pp ‡	-0.17 pp	0.43 pp
	No Caliper Comparison Group	247,417	32.3%	30.1%	255,343	31.8%	29.4%	0.18 pp ‡	-0.10 pp	0.45 pp
PGP	BPCI Advanced Impact Estimate	100,239	29.6%	27.2%	77,781	30.2%	28.6%	-0.83 pp	-1.33 pp	-0.34 pp
	No ACO Episodes	88,531	29.6%	27.2%	65,450	30.2%	28.7%	-0.87 pp	-1.39 pp	-0.34 pp
	No Caliper Comparison Group	111,921	29.4%	27.1%	80,931	30.1%	28.5%	-0.79 pp	-1.28 pp	-0.31 pp
Surgical	BPCI Advanced Impact Estimate	78,819	14.6%	12.9%	65,383	14.4%	13.0%	-0.25 pp	-0.74 pp	0.25 pp
	No ACO Episodes	69,180	14.6%	13.0%	56,271	14.5%	13.1%	-0.23 pp	-0.77 pp	0.30 pp
	No Caliper Comparison Group	94,643	14.4%	12.7%	71,028	14.2%	12.8%	-0.31 pp	-0.78 pp	0.16 pp
Hospitals	BPCI Advanced Impact Estimate	26,283	16.9%	15.2%	25,005	16.4%	14.9%	-0.19 pp	-0.79 pp	0.42 pp
	No ACO Episodes	23,534	16.9%	15.1%	21,849	16.5%	15.0%	-0.37 pp	-1.01 pp	0.27 pp
	No Caliper Comparison Group	27,493	17.1%	15.2%	26,463	16.6%	15.0%	-0.28 pp	-0.87 pp	0.31 pp
PGP	BPCI Advanced Impact Estimate	52,536	13.2%	11.6%	40,377	13.3%	11.9%	-0.26 pp	-0.96 pp	0.44 pp
	No ACO Episodes	45,646	13.2%	11.6%	34,422	13.3%	11.9%	-0.15 pp	-0.91 pp	0.61 pp
	No Caliper Comparison Group	67,150	13.0%	11.3%	44,565	13.0%	11.6%	-0.32 pp	-0.98 pp	0.33 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit H.3: BPCI Advanced Impact Estimate and Sensitivity Test Results, Mortality During the Anchor Stay Through the 90-day PDP, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
All Clinical Episodes	BPCI Advanced Impact Estimate	415,457	17.3%	16.8%	386,480	16.9%	16.7%	-0.20 pp	-0.45 pp	0.04 pp
	No ACO Episodes	365,115	17.3%	16.7%	337,467	17.0%	16.6%	-0.18 pp	-0.43 pp	0.07 pp
	No Caliper Comparison Group	479,008	17.5%	17.0%	431,357	17.2%	16.9%	-0.21 pp	-0.45 pp	0.02 pp
Medical	BPCI Advanced Impact Estimate	336,757	20.3%	19.8%	321,176	20.0%	19.7%	-0.27 pp	-0.57 pp	0.03 pp
	No ACO Episodes	296,030	20.4%	19.7%	281,273	20.1%	19.6%	-0.24 pp	-0.54 pp	0.07 pp
	No Caliper Comparison Group	384,531	20.6%	20.0%	360,424	20.3%	20.0%	-0.28 pp	-0.57 pp	0.02 pp
Hospitals	BPCI Advanced Impact Estimate	231,822	20.8%	20.5%	239,522	20.5%	20.2%	-0.05 pp	-0.38 pp	0.28 pp
	No ACO Episodes	203,258	20.9%	20.4%	212,401	20.6%	20.1%	-0.01 pp	-0.34 pp	0.32 pp
	No Caliper Comparison Group	267,327	21.1%	20.7%	275,387	20.8%	20.5%	-0.06 pp	-0.37 pp	0.25 pp
PGP	BPCI Advanced Impact Estimate	104,934	18.7%	17.7%	81,654	18.3%	17.9%	-0.64 pp	-1.24 pp	-0.03 pp
	No ACO Episodes	92,772	18.8%	17.7%	68,872	18.4%	17.9%	-0.63 pp	-1.25 pp	-0.01 pp
	No Caliper Comparison Group	117,203	19.0%	17.9%	85,036	18.6%	18.1%	-0.69 pp	-1.28 pp	-0.10 pp
Surgical	BPCI Advanced Impact Estimate	78,701	4.0%	4.0%	65,304	3.9%	3.8%	0.06 pp	-0.11 pp	0.24 pp
	No ACO Episodes	69,085	4.0%	4.0%	56,194	3.9%	3.8%	0.05 pp	-0.13 pp	0.24 pp
	No Caliper Comparison Group	94,478	3.9%	3.9%	70,933	3.9%	3.7%	0.04 pp	-0.12 pp	0.20 pp
Hospitals	BPCI Advanced Impact Estimate	26,277	4.6%	4.4%	25,030	4.5%	4.4%	-0.17 pp	-0.47 pp	0.12 pp
	No ACO Episodes	23,539	4.7%	4.4%	21,868	4.5%	4.4%	-0.22 pp	-0.54 pp	0.09 pp
	No Caliper Comparison Group	27,476	4.8%	4.5%	26,479	4.6%	4.5%	-0.18 pp	-0.46 pp	0.10 pp
PGP	BPCI Advanced Impact Estimate	52,423	3.6%	3.7%	40,274	3.6%	3.5%	0.18 pp	-0.03 pp	0.40 pp
	No ACO Episodes	45,546	3.6%	3.7%	34,325	3.6%	3.5%	0.20 pp	-0.03 pp	0.43 pp
	No Caliper Comparison Group	67,002	3.5%	3.5%	44,454	3.5%	3.3%	0.14 pp	-0.05 pp	0.33 pp

Note: See the first page of this appendix for data sources and more information.

B. Hospitals Individual Clinical Episodes

Exhibit H.4: BPCI Advanced Impact Estimate and Sensitivity Test Results, Total Allowed Payments Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
AMI	Main	9,397	\$27,309	\$26,079	9,592	\$26,847	\$26,449	-\$832	-\$1,389	-\$276
	No ACO Episodes	8,269	\$27,307	\$26,126	8,473	\$26,870	\$26,472	-\$782	-\$1,377	-\$187
	No Caliper Comparison Group	10,416	\$27,588	\$26,205	10,915	\$26,767	\$26,294	-\$910	-\$1,429	-\$391
Cardiac Arrhythmia	Main	14,297	\$19,576	\$19,400	14,260	\$19,100	\$19,505	-\$581	-\$964	-\$198
	No ACO Episodes	12,363	\$19,577	\$19,387	12,627	\$19,095	\$19,469	-\$563	-\$976	-\$151
	No Caliper Comparison Group	15,642	\$19,771	\$19,556	16,129	\$19,108	\$19,569	-\$676	-\$1,039	-\$313
COPD	Main	12,789	\$20,710	\$20,509	13,414	\$20,305	\$20,269	-\$165	-\$554	\$224
	No ACO Episodes	11,453	\$20,691	\$20,471	11,732	\$20,288	\$20,366	-\$298	-\$723	\$128
	No Caliper Comparison Group	14,284	\$20,864	\$20,546	14,342	\$20,316	\$20,239	-\$241	-\$616	\$135
CHF	Main	21,065	\$26,494	\$25,169	21,446	\$26,421	\$25,699	-\$603	-\$1,001	-\$205
	No ACO Episodes	18,357	\$26,450	\$25,117	18,770	\$26,381	\$25,745	-\$698 ‡	-\$1,120	-\$275
	No Caliper Comparison Group	24,402	\$26,949	\$25,541	24,945	\$26,549	\$25,692	-\$551	-\$938	-\$164
GI Hemorrhage	Main	8,890	\$22,359	\$22,944	10,426	\$21,846	\$23,041	-\$609	-\$1,079	-\$140
	No ACO Episodes	7,880	\$22,350	\$22,840	8,891	\$21,831	\$23,163	-\$842	-\$1,346	-\$339
	No Caliper Comparison Group	9,929	\$22,643	\$23,052	12,147	\$22,038	\$23,144	-\$696 ‡	-\$1,145	-\$247
Renal Failure	Main	13,335	\$26,403	\$26,437	14,158	\$25,711	\$26,326	-\$580	-\$1,039	-\$120
	No ACO Episodes	11,821	\$26,381	\$26,416	12,671	\$25,683	\$26,477	-\$759	-\$1,245	-\$273
	No Caliper Comparison Group	15,147	\$26,652	\$26,821	16,357	\$25,808	\$26,450	-\$474	-\$906	-\$41
Sepsis	Main	82,006	\$31,489	\$32,784	80,010	\$31,424	\$33,474	-\$755	-\$1,093	-\$418
	No ACO Episodes	71,524	\$31,560	\$32,869	71,014	\$31,483	\$33,631	-\$838	-\$1,202	-\$475
	No Caliper Comparison Group	103,166	\$32,233	\$33,497	98,178	\$31,514	\$33,657	-\$879 ‡	-\$1,206	-\$552

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
SPRI	Main	43,619	\$25,282	\$24,588	47,342	\$24,818	\$24,824	-\$700	-\$1,043	-\$357
	No ACO Episodes	38,300	\$25,276	\$24,609	42,034	\$24,820	\$24,721	-\$569	-\$935	-\$202
	No Caliper Comparison Group	48,867	\$25,665	\$24,997	53,689	\$25,043	\$24,974	-\$599 ‡	-\$930	-\$268
Stroke	Main	16,811	\$32,940	\$31,460	18,927	\$32,825	\$32,799	-\$1,455	-\$2,048	-\$863
	No ACO Episodes	14,371	\$32,922	\$31,496	16,348	\$32,822	\$32,965	-\$1,568 ‡	-\$2,203	-\$934
	No Caliper Comparison Group	16,926	\$32,991	\$31,505	19,450	\$32,905	\$32,997	-\$1,578 ‡	-\$2,181	-\$974
UTI	Main	11,259	\$24,739	\$24,834	12,253	\$24,208	\$25,546	-\$1,243	-\$1,723	-\$763
	No ACO Episodes	10,049	\$24,756	\$24,898	10,830	\$24,209	\$25,459	-\$1,108	-\$1,621	-\$596
	No Caliper Comparison Group	12,167	\$24,875	\$24,801	13,324	\$24,253	\$25,674	-\$1,496 ‡	-\$1,984	-\$1,007

Note: See the first page of this appendix for data sources and more information

Exhibit H.5: BPCI Advanced Impact Estimate and Sensitivity Test Results, Total Allowed Payments Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
CABG	Main	2,248	\$51,390	\$51,372	2,167	\$50,194	\$51,603	-\$1,427	-\$2,828	-\$26
	No ACO Episodes	2,007	\$51,432	\$51,367	1,951	\$50,175	\$51,488	-\$1,378	-\$2,819	\$62
	No Caliper Comparison Group	2,488	\$51,829	\$51,806	2,483	\$50,385	\$51,640	-\$1,278	-\$2,596	\$40
Fractures of the Femur and Hip or Pelvis	Main	790	\$33,432	\$31,229	804	\$32,998	\$31,591	-\$795	-\$2,941	\$1,350
	No ACO Episodes	694	\$33,498	\$31,360	738	\$32,951	\$31,435	-\$623	-\$2,877	\$1,632
	No Caliper Comparison Group	920	\$33,778	\$31,759	919	\$33,112	\$31,964	-\$871	-\$2,784	\$1,042
Hip & Femur Procedures	Main	4,589	\$47,116	\$45,260	4,452	\$46,330	\$46,347	-\$1,873	-\$3,028	-\$717
	No ACO Episodes	4,076	\$47,139	\$45,376	3,976	\$46,341	\$46,589	-\$2,012	-\$3,263	-\$760
	No Caliper Comparison Group	5,342	\$47,709	\$45,255	5,166	\$46,695	\$46,720	-\$2,480	-\$3,539	-\$1,420

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
MJRLE	Main	9,367	\$27,895	\$24,391	8,177	\$27,580	\$24,889	-\$813	-\$1,679	\$54
	No ACO Episodes	8,528	\$28,143	\$23,471	6,297	\$27,803	\$24,149	-\$1,018	-\$1,965	-\$70
	No Caliper Comparison Group	9,566	\$28,052	\$24,457	8,237	\$27,627	\$24,907	-\$875	-\$1,728	-\$22
Pacemaker	Main	1,567	\$31,482	\$30,239	1,535	\$30,688	\$30,909	-\$1,464	-\$2,479	-\$448
	No ACO Episodes	1,404	\$31,494	\$30,181	1,305	\$30,701	\$31,027	-\$1,639	-\$2,745	-\$533
	No Caliper Comparison Group	1,663	\$31,642	\$30,283	1,634	\$30,814	\$30,892	-\$1,436 ‡	-\$2,446	-\$426
PCI (IP)	Main	2,960	\$28,255	\$28,664	3,770	\$27,068	\$27,820	-\$344	-\$1,148	\$461
	No ACO Episodes	2,677	\$28,218	\$28,691	3,425	\$27,039	\$27,982	-\$470 ‡	-\$1,303	\$363
	No Caliper Comparison Group	2,960	\$28,255	\$28,664	3,770	\$27,068	\$27,820	-\$344	-\$1,148	\$461
PCI (OP)	Main	6,297	\$17,097	\$18,163	5,830	\$17,008	\$18,159	-\$85	-\$582	\$412
	No ACO Episodes	5,435	\$17,051	\$18,173	5,378	\$16,957	\$18,203	-\$125	-\$658	\$408
	No Caliper Comparison Group	6,562	\$17,129	\$18,210	6,180	\$17,028	\$18,271	-\$161	-\$658	\$335

Note: See the first page of this appendix for data sources and more information

Exhibit H.6: BPCI Advanced Impact Estimate and Sensitivity Test Results, Unplanned Readmissions Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
AMI	Main	9,232	36.4%	32.6%	9,414	36.0%	33.6%	-1.47 pp	-2.78 pp	-0.16 pp
	No ACO Episodes	8,122	36.4%	32.7%	8,309	36.0%	33.9%	-1.64 pp	-3.01 pp	-0.27 pp
	No Caliper Comparison Group	10,217	36.7%	32.8%	10,711	35.9%	33.4%	-1.37 pp	-2.57 pp	-0.17 pp
Cardiac Arrhythmia	Main	14,139	31.8%	28.7%	14,133	30.8%	27.1%	0.56 pp	-0.47 pp	1.59 pp
	No ACO Episodes	12,231	31.8%	28.7%	12,512	30.7%	27.0%	0.72 pp	-0.39 pp	1.83 pp
	No Caliper Comparison Group	15,451	31.9%	28.9%	15,994	30.9%	27.4%	0.42 pp	-0.56 pp	1.40 pp

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
COPD	Main	12,573	36.2%	32.4%	13,215	35.8%	33.0%	-1.01 pp	-2.04 pp	0.02 pp
	No ACO Episodes	11,251	36.1%	32.3%	11,551	35.8%	33.0%	-1.08 pp	-2.19 pp	0.03 pp
	No Caliper Comparison Group	14,028	36.4%	32.4%	14,134	35.8%	32.9%	-1.10 pp	-2.08 pp	-0.11 pp
CHF	Main	20,849	41.0%	37.4%	21,221	40.6%	36.8%	0.27 pp	-0.61 pp	1.14 pp
	No ACO Episodes	18,170	41.0%	37.5%	18,573	40.6%	36.9%	0.19 pp	-0.72 pp	1.10 pp
	No Caliper Comparison Group	24,129	41.7%	38.0%	24,695	40.9%	36.6%	0.62 pp	-0.20 pp	1.44 pp
GI Hemorrhage	Main	8,796	31.7%	30.3%	10,324	31.0%	30.4%	-0.74 pp	-1.97 pp	0.49 pp
	No ACO Episodes	7,792	31.5%	30.2%	8,806	30.9%	30.4%	-0.86 pp	-2.20 pp	0.48 pp
	No Caliper Comparison Group	9,820	31.8%	30.5%	12,030	31.0%	30.4%	-0.74 pp	-1.90 pp	0.42 pp
Renal Failure	Main	13,196	35.7%	33.8%	14,006	35.1%	33.0%	0.28 pp	-0.68 pp	1.24 pp
	No ACO Episodes	11,696	35.7%	33.6%	12,528	35.1%	33.1%	-0.06 pp	-1.08 pp	0.97 pp
	No Caliper Comparison Group	14,967	36.1%	34.6%	16,182	35.2%	33.0%	0.69 pp	-0.20 pp	1.58 pp
Sepsis	Main	81,191	32.4%	30.6%	79,287	32.3%	30.2%	0.25 pp ‡	-0.21 pp	0.70 pp
	No ACO Episodes	70,797	32.4%	30.6%	70,342	32.3%	30.2%	0.22 pp ‡	-0.26 pp	0.69 pp
	No Caliper Comparison Group	102,043	32.8%	31.0%	97,313	32.4%	30.3%	0.26 pp	-0.15 pp	0.67 pp
SPRI	Main	43,233	30.4%	28.2%	46,987	30.3%	27.4%	0.60 pp	-0.06 pp	1.25 pp
	No ACO Episodes	37,958	30.5%	28.3%	41,720	30.3%	27.4%	0.77 pp	0.08 pp	1.45 pp
	No Caliper Comparison Group	48,396	30.7%	28.4%	53,278	30.4%	27.6%	0.53 pp	-0.08 pp	1.15 pp
Stroke	Main	16,647	25.4%	23.3%	18,789	25.1%	23.2%	-0.16 pp	-1.02 pp	0.69 pp
	No ACO Episodes	14,230	25.4%	23.1%	16,223	25.1%	23.1%	-0.39 pp	-1.30 pp	0.53 pp
	No Caliper Comparison Group	16,760	25.4%	23.3%	19,309	25.0%	23.0%	-0.10 pp	-0.95 pp	0.74 pp
UTI	Main	11,179	32.8%	31.0%	12,188	32.5%	30.0%	0.74 pp	-0.32 pp	1.80 pp
	No ACO Episodes	9,974	32.7%	31.1%	10,774	32.5%	30.0%	0.96 pp	-0.16 pp	2.08 pp
	No Caliper Comparison Group	12,072	33.0%	31.2%	13,253	32.6%	30.1%	0.75 pp	-0.30 pp	1.81 pp

Note: See the first page of this appendix for data sources and more information

Exhibit H.7: BPCI Advanced Impact Estimate and Sensitivity Test Results, Unplanned Readmissions Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
CABG	Main	2,245	21.8%	16.7%	2,165	21.0%	17.4%	-1.35 pp	-3.76 pp	1.06 pp
	No ACO Episodes	2,004	21.8%	16.8%	1,949	21.1%	17.1%	-1.03 pp	-3.53 pp	1.46 pp
	No Caliper Comparison Group	2,485	22.2%	17.4%	2,480	21.2%	17.1%	-0.71 pp ‡	-2.97 pp	1.55 pp
Fractures of the Femur and Hip or Pelvis	Main	789	24.9%	23.5%	803	23.6%	19.7%	2.55 pp	-0.19 pp	5.29 pp
	No ACO Episodes	693	24.8%	23.6%	737	23.4%	19.8%	2.39 pp	-0.55 pp	5.32 pp
	No Caliper Comparison Group	918	25.1%	23.8%	918	23.6%	20.3%	1.99 pp	-0.84 pp	4.82 pp
Hip & Femur Procedures	Main	4,587	22.2%	21.4%	4,447	21.5%	20.0%	0.75 pp	-0.64 pp	2.15 pp
	No ACO Episodes	4,074	22.2%	21.1%	3,971	21.6%	20.3%	0.14 pp	-1.33 pp	1.62 pp
	No Caliper Comparison Group	5,340	22.6%	21.2%	5,161	22.0%	20.2%	0.28 pp	-0.99 pp	1.56 pp
MJRLE	Main	9,365	11.3%	9.5%	8,176	11.0%	9.4%	-0.20 pp	-1.13 pp	0.74 pp
	No ACO Episodes	8,526	11.5%	8.9%	6,296	11.3%	8.9%	-0.23 pp	-1.20 pp	0.74 pp
	No Caliper Comparison Group	9,564	11.3%	9.4%	8,236	11.1%	9.5%	-0.25 pp	-1.17 pp	0.68 pp
Pacemaker	Main	1,564	24.6%	19.2%	1,534	23.8%	19.7%	-1.34 pp	-3.70 pp	1.01 pp
	No ACO Episodes	1,402	24.6%	18.6%	1,304	23.7%	19.5%	-1.77 pp	-4.21 pp	0.67 pp
	No Caliper Comparison Group	1,660	24.8%	19.1%	1,633	24.0%	19.6%	-1.34 pp	-3.62 pp	0.94 pp
PCI (IP)	Main	2,944	26.6%	24.6%	3,749	25.4%	24.1%	-0.65 pp	-2.87 pp	1.57 pp
	No ACO Episodes	2,662	26.6%	24.7%	3,405	25.4%	24.3%	-0.80 pp	-3.01 pp	1.40 pp
	No Caliper Comparison Group	2,944	26.6%	24.6%	3,749	25.4%	24.1%	-0.65 pp	-2.87 pp	1.57 pp
PCI (OP)	Main	6,297	13.5%	13.6%	5,830	13.1%	13.6%	-0.37 pp	-1.67 pp	0.93 pp
	No ACO Episodes	5,432	13.4%	13.9%	5,375	13.0%	13.6%	-0.16 pp	-1.52 pp	1.20 pp
	No Caliper Comparison Group	6,562	13.5%	13.6%	6,180	13.2%	13.7%	-0.41 pp	-1.66 pp	0.84 pp

Note: See the first page of this appendix for data sources and more information

Exhibit H.8: BPCI Advanced Impact Estimate and Sensitivity Test Results, Mortality During the Anchor Stay Through the 90-day PDP, Medical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
AMI	Main	9,207	19.2%	18.0%	9,390	18.7%	18.5%	-0.91 pp	-1.98 pp	0.15 pp
	No ACO Episodes	8,103	19.3%	18.1%	8,289	18.8%	18.3%	-0.62 pp	-1.72 pp	0.47 pp
	No Caliper Comparison Group	10,190	19.3%	18.3%	10,695	18.8%	18.6%	-0.71 pp	-1.71 pp	0.30 pp
Cardiac Arrhythmia	Main	14,304	10.5%	10.2%	14,363	10.7%	10.4%	-0.02 pp	-0.60 pp	0.55 pp
	No ACO Episodes	12,381	10.6%	10.3%	12,708	10.7%	10.4%	0.07 pp	-0.56 pp	0.69 pp
	No Caliper Comparison Group	15,626	10.6%	10.3%	16,265	10.7%	10.6%	-0.21 pp	-0.76 pp	0.33 pp
COPD	Main	12,532	8.9%	8.4%	13,168	8.7%	8.0%	0.25 pp	-0.28 pp	0.79 pp
	No ACO Episodes	11,210	8.9%	8.4%	11,502	8.8%	8.0%	0.26 pp	-0.30 pp	0.81 pp
	No Caliper Comparison Group	13,972	8.8%	8.3%	14,084	8.8%	8.1%	0.13 pp	-0.38 pp	0.63 pp
CHF	Main	21,297	20.5%	17.9%	21,603	21.2%	18.1%	0.39 pp	-0.30 pp	1.08 pp
	No ACO Episodes	18,547	20.6%	17.6%	18,906	21.3%	17.9%	0.41 pp	-0.31 pp	1.13 pp
	No Caliper Comparison Group	24,632	20.5%	17.7%	25,152	21.1%	18.1%	0.22 pp	-0.47 pp	0.91 pp
GI Hemorrhage	Main	8,939	12.8%	12.5%	10,479	12.6%	12.3%	0.11 pp	-0.66 pp	0.87 pp
	No ACO Episodes	7,928	12.8%	12.7%	8,947	12.7%	12.2%	0.42 pp	-0.37 pp	1.21 pp
	No Caliper Comparison Group	9,974	13.0%	12.8%	12,201	12.7%	12.4%	0.14 pp ‡	-0.58 pp	0.85 pp
Renal Failure	Main	13,468	20.8%	21.0%	14,320	20.5%	20.8%	-0.04 pp	-1.01 pp	0.93 pp
	No ACO Episodes	11,935	20.9%	20.8%	12,804	20.6%	20.6%	-0.08 pp	-1.09 pp	0.94 pp
	No Caliper Comparison Group	15,245	20.5%	20.5%	16,521	20.6%	20.7%	-0.06 pp	-0.96 pp	0.83 pp
Sepsis	Main	95,720	32.6%	32.5%	93,973	31.5%	32.0%	-0.60 pp	-1.20 pp	0.00 pp
	No ACO Episodes	83,751	32.8%	32.4%	83,560	31.8%	32.0%	-0.60 pp	-1.21 pp	0.01 pp
	No Caliper Comparison Group	120,462	32.7%	32.3%	115,083	31.8%	32.0%	-0.67 pp	-1.21 pp	-0.13 pp
SPRI	Main	46,251	21.3%	20.2%	50,293	20.6%	20.0%	-0.55 pp ‡	-1.20 pp	0.11 pp
	No ACO Episodes	40,671	21.4%	20.0%	44,699	20.7%	19.8%	-0.48 pp ‡	-1.15 pp	0.19 pp
	No Caliper Comparison Group	51,565	21.2%	20.1%	56,960	20.6%	20.2%	-0.65 pp ‡	-1.27 pp	-0.04 pp

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
Stroke	Main	17,849	23.1%	22.1%	20,117	22.9%	22.1%	-0.14 pp	-0.96 pp	0.68 pp
	No ACO Episodes	15,296	23.2%	22.2%	17,359	23.1%	22.1%	-0.12 pp	-0.96 pp	0.72 pp
	No Caliper Comparison Group	17,968	23.2%	22.2%	20,683	22.9%	22.1%	-0.17 pp	-0.97 pp	0.64 pp
UTI	Main	11,072	12.8%	13.4%	12,073	12.4%	13.5%	-0.50 pp	-1.30 pp	0.30 pp
	No ACO Episodes	9,882	12.8%	13.4%	10,671	12.5%	13.4%	-0.38 pp	-1.20 pp	0.44 pp
	No Caliper Comparison Group	11,948	12.6%	13.1%	13,123	12.3%	13.1%	-0.39 pp	-1.16 pp	0.38 pp

Note: See the first page of this appendix for data sources and more information

Exhibit H.9: BPCI Advanced Impact Estimate and Sensitivity Test Results, Mortality During the Anchor Stay Through the 90-day PDP, Surgical Clinical Episodes, Hospitals, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean			
CABG	Main	2,287	4.0%	3.3%	2,194	3.6%	2.6%	0.32 pp	-0.60 pp	1.25 pp
	No ACO Episodes	2,044	4.0%	3.2%	1,976	3.7%	2.5%	0.41 pp	-0.53 pp	1.35 pp
	No Caliper Comparison Group	2,528	4.0%	3.1%	2,512	3.5%	2.6%	0.00 pp	-0.88 pp	0.89 pp
Fractures of the Femur and Hip or Pelvis	Main	790	15.3%	14.1%	796	16.8%	16.4%	-0.74 pp	-3.60 pp	2.12 pp
	No ACO Episodes	694	15.3%	13.8%	733	16.8%	16.4%	-1.12 pp	-4.14 pp	1.90 pp
	No Caliper Comparison Group	913	15.2%	13.7%	911	16.7%	15.1%	0.09 pp	-2.52 pp	2.69 pp
Hip & Femur Procedures	Main	4,543	12.4%	12.2%	4,387	12.0%	11.8%	0.04 pp	-1.02 pp	1.11 pp
	No ACO Episodes	4,043	12.5%	11.8%	3,914	12.0%	11.6%	-0.19 pp	-1.33 pp	0.95 pp
	No Caliper Comparison Group	5,290	12.3%	12.0%	5,090	12.1%	11.9%	0.01 pp	-1.00 pp	1.03 pp
MJRLE	Main	9,337	2.1%	2.1%	8,172	2.1%	2.0%	0.00 pp	-0.36 pp	0.36 pp
	No ACO Episodes	8,499	2.3%	1.7%	6,289	2.2%	1.6%	-0.05 pp	-0.41 pp	0.31 pp
	No Caliper Comparison Group	9,537	2.1%	2.1%	8,232	2.1%	2.0%	0.05 pp	-0.31 pp	0.40 pp
Pacemaker	Main	1,568	6.8%	5.1%	1,553	6.3%	5.3%	-0.65 pp	-1.89 pp	0.59 pp
	No ACO Episodes	1,407	6.8%	5.0%	1,321	6.3%	5.4%	-0.83 pp	-2.16 pp	0.49 pp
	No Caliper Comparison Group	1,663	6.9%	5.1%	1,653	6.2%	5.2%	-0.88 pp	-2.06 pp	0.31 pp
PCI (IP)	Main	2,990	5.9%	6.2%	3,814	5.5%	6.9%	-1.08 pp	-2.26 pp	0.10 pp
	No ACO Episodes	2,706	5.9%	6.3%	3,463	5.4%	7.0%	-1.12 pp	-2.36 pp	0.13 pp
	No Caliper Comparison Group	2,990	5.9%	6.2%	3,814	5.5%	6.9%	-1.08 pp	-2.26 pp	0.10 pp
PCI (OP)	Main	6,293	1.0%	1.1%	5,831	1.1%	1.0%	0.12 pp	-0.19 pp	0.43 pp
	No ACO Episodes	5,356	1.0%	1.1%	5,296	1.1%	1.0%	0.18 pp	-0.15 pp	0.51 pp
	No Caliper Comparison Group	6,558	1.1%	1.1%	6,180	1.1%	1.1%	0.03 pp	-0.28 pp	0.34 pp

Note: See the first page of this appendix for data sources and more information

C. Physician Group Practices

Exhibit H.10: BPCI Advanced Impact Estimate and Sensitivity Test Results, Total Allowed Payments Through the 90-day PDP, Medical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
AMI	Main	4,970	\$26,285	\$25,157	4,104	\$25,559	\$24,921	-\$491	-\$1,345	\$364
	No ACO Episodes	4,537	\$26,249	\$25,140	3,377	\$25,580	\$24,891	-\$420	-\$1,282	\$442
	No Caliper Comparison Group	5,272	\$26,303	\$25,211	4,282	\$25,610	\$25,078	-\$559	-\$1,389	\$271
Cardiac Arrhythmia	Main	6,841	\$19,075	\$19,309	5,475	\$19,128	\$19,175	\$188	-\$408	\$783
	No ACO Episodes	5,974	\$19,041	\$19,350	4,369	\$19,097	\$19,404	\$1	-\$658	\$661
	No Caliper Comparison Group	7,121	\$19,043	\$19,330	5,609	\$19,152	\$19,254	\$186	-\$394	\$766
Cellulitis	Main	2,354	\$21,224	\$21,847	1,788	\$21,193	\$22,369	-\$553	-\$1,490	\$383
	No ACO Episodes	2,055	\$21,247	\$21,807	1,541	\$21,111	\$22,036	-\$364 †	-\$1,429	\$700
	No Caliper Comparison Group	2,951	\$21,249	\$21,874	1,883	\$21,050	\$22,235	-\$561 †	-\$1,391	\$269
COPD	Main	5,991	\$19,754	\$19,277	4,711	\$19,389	\$19,211	-\$299	-\$777	\$179
	No ACO Episodes	5,326	\$19,721	\$19,358	3,845	\$19,341	\$19,186	-\$209	-\$720	\$303
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHF	Main	9,229	\$25,981	\$24,882	7,218	\$25,204	\$24,651	-\$547	-\$1,034	-\$60
	No ACO Episodes	7,754	\$25,931	\$25,002	6,042	\$25,176	\$24,591	-\$343	-\$894	\$207
	No Caliper Comparison Group	12,466	\$26,336	\$24,821	9,111	\$25,767	\$24,725	-\$473	-\$928	-\$18
GI Hemorrhage	Main	7,477	\$21,328	\$22,176	6,518	\$21,546	\$22,638	-\$244	-\$808	\$320
	No ACO Episodes	6,620	\$21,333	\$22,162	5,765	\$21,517	\$22,554	-\$208	-\$768	\$353
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GI Obstruction	Main	2,758	\$17,290	\$16,923	2,178	\$17,145	\$17,473	-\$695	-\$1,481	\$91
	No ACO Episodes	2,474	\$17,272	\$17,231	1,806	\$17,171	\$17,783	-\$653	-\$1,463	\$158
	No Caliper Comparison Group	2,762	\$17,297	\$16,938	2,213	\$17,145	\$17,500	-\$713	-\$1,490	\$63

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
Renal Failure	Main	6,437	\$25,161	\$25,065	6,077	\$24,616	\$25,706	-\$1,185	-\$2,001	-\$369
	No ACO Episodes	5,594	\$25,150	\$24,927	5,276	\$24,567	\$25,824	-\$1,480	-\$2,283	-\$676
	No Caliper Comparison Group	8,108	\$25,266	\$25,104	6,271	\$24,548	\$25,597	-\$1,211	-\$1,951	-\$470
Sepsis	Main	31,508	\$29,626	\$31,040	27,250	\$29,254	\$31,287	-\$619	-\$1,187	-\$51
	No ACO Episodes	28,015	\$29,672	\$31,074	23,245	\$29,316	\$31,398	-\$680	-\$1,284	-\$76
	No Caliper Comparison Group	37,021	\$29,696	\$30,933	29,747	\$29,038	\$31,170	-\$895	-\$1,463	-\$328
SPRI	Main	23,678	\$24,219	\$23,460	18,601	\$23,875	\$23,695	-\$578	-\$1,138	-\$18
	No ACO Episodes	20,638	\$24,172	\$23,449	15,694	\$23,811	\$23,752	-\$664	-\$1,287	-\$42
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stroke	Main	5,514	\$32,080	\$31,738	4,504	\$31,791	\$31,862	-\$414	-\$1,353	\$524
	No ACO Episodes	4,926	\$32,071	\$31,758	3,650	\$31,772	\$32,331	-\$872	-\$1,885	\$141
	No Caliper Comparison Group	8,504	\$31,637	\$31,286	6,348	\$31,659	\$31,520	-\$212	-\$1,140	\$716
UTI	Main	6,506	\$23,424	\$23,679	4,676	\$23,615	\$24,821	-\$951	-\$1,546	-\$356
	No ACO Episodes	5,772	\$23,435	\$23,766	3,537	\$23,680	\$24,857	-\$847	-\$1,546	-\$148
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: See the first page of this appendix for data sources and more information.

Exhibit H.11: BPCI Advanced Impact Estimate and Sensitivity Test Results, Total Allowed Payments Through the 90-day PDP, Surgical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
Hip & Femur Procedures	Main	9,303	\$46,052	\$42,872	7,281	\$45,761	\$45,695	-\$3,113	-\$4,156	-\$2,071
	No ACO Episodes	8,277	\$45,990	\$42,935	6,176	\$45,790	\$45,870	-\$3,135	-\$4,252	-\$2,019
	No Caliper Comparison Group	11,400	\$45,905	\$42,867	7,564	\$45,697	\$45,685	-\$3,025	-\$3,983	-\$2,068

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
MJRLE	Main	30,297	\$26,597	\$22,384	23,645	\$26,266	\$24,188	-\$2,135	-\$2,507	-\$1,762
	No ACO Episodes	26,359	\$26,644	\$22,396	20,040	\$26,309	\$24,224	-\$2,163	-\$2,559	-\$1,767
	No Caliper Comparison Group	40,189	\$26,432	\$22,271	26,400	\$26,229	\$24,026	-\$1,958	-\$2,303	-\$1,613
MJRUE	Main	4,455	\$24,208	\$22,887	4,732	\$24,181	\$23,566	-\$706 ‡	-\$1,284	-\$128
	No ACO Episodes	3,838	\$24,185	\$23,005	4,116	\$24,221	\$23,620	-\$579 ‡	-\$1,166	\$9
	No Caliper Comparison Group	5,987	\$24,322	\$22,611	5,012	\$24,153	\$23,521	-\$1,079 ‡	-\$1,610	-\$549
PCI (IP)	Main	3,516	\$27,982	\$27,635	2,408	\$27,910	\$27,897	-\$334	-\$1,358	\$690
	No ACO Episodes	3,061	\$27,965	\$27,656	1,982	\$27,862	\$28,046	-\$492	-\$1,511	\$527
	No Caliper Comparison Group	3,547	\$27,998	\$27,633	2,415	\$27,924	\$27,923	-\$364	-\$1,383	\$655
Spinal Fusion	Main	5,974	\$43,812	\$38,672	4,615	\$43,983	\$41,237	-\$2,394	-\$3,696	-\$1,092
	No ACO Episodes	4,975	\$43,654	\$38,256	3,754	\$43,902	\$40,709	-\$2,204	-\$3,616	-\$793
	No Caliper Comparison Group	7,544	\$43,346	\$38,334	5,729	\$44,206	\$41,047	-\$1,852 ‡	-\$3,114	-\$591

Note: See the first page of this appendix for data sources and more information.

Exhibit H.12: BPCI Advanced Impact Estimate and Sensitivity Test Results, Unplanned Readmissions Through the 90-day PDP, Medical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
AMI	Main	4,914	34.7%	30.9%	4,044	34.0%	30.0%	0.17 pp	-1.71 pp	2.05 pp
	No ACO Episodes	4,483	34.6%	30.9%	3,333	34.0%	29.7%	0.58 pp	-1.34 pp	2.50 pp
	No Caliper Comparison Group	5,214	34.7%	31.0%	4,220	34.1%	29.9%	0.46 pp	-1.39 pp	2.31 pp
Cardiac Arrhythmia	Main	6,778	30.2%	27.1%	5,440	30.3%	26.7%	0.46 pp	-1.08 pp	2.01 pp
	No ACO Episodes	5,920	30.1%	26.9%	4,341	30.2%	27.3%	-0.30 pp	-2.06 pp	1.46 pp
	No Caliper Comparison Group	7,057	30.0%	27.2%	5,573	30.3%	26.9%	0.69 pp	-0.84 pp	2.22 pp

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
Cellulitis	Main	2,286	29.7%	27.1%	1,768	29.0%	28.2%	-1.78 pp	-4.34 pp	0.77 pp
	No ACO Episodes	1,990	29.8%	27.2%	1,521	29.0%	27.3%	-0.92 pp	-3.80 pp	1.96 pp
	No Caliper Comparison Group	2,876	29.5%	27.2%	1,861	28.9%	28.0%	-1.37 pp	-3.69 pp	0.95 pp
COPD	Main	5,904	33.9%	30.4%	4,656	34.0%	31.9%	-1.31 pp	-3.05 pp	0.44 pp
	No ACO Episodes	5,244	33.8%	30.5%	3,796	34.0%	31.6%	-0.92 pp	-2.78 pp	0.94 pp
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHF	Main	9,131	40.2%	35.4%	7,158	38.3%	35.8%	-2.21 pp	-3.66 pp	-0.76 pp
	No ACO Episodes	7,670	40.2%	35.8%	5,987	38.3%	35.4%	-1.48 pp	-2.95 pp	-0.01 pp
	No Caliper Comparison Group	12,330	40.0%	35.6%	9,041	38.9%	36.1%	-1.60 pp	-2.84 pp	-0.36 pp
GI Hemorrhage	Main	7,410	29.1%	28.1%	6,456	29.9%	29.0%	-0.07 pp	-1.73 pp	1.58 pp
	No ACO Episodes	6,562	29.0%	27.8%	5,713	29.8%	29.0%	-0.36 pp	-2.10 pp	1.38 pp
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GI Obstruction	Main	2,728	26.4%	24.3%	2,151	26.5%	24.4%	0.03 pp	-2.18 pp	2.24 pp
	No ACO Episodes	2,448	26.4%	24.7%	1,785	26.6%	24.5%	0.53 pp	-1.76 pp	2.82 pp
	No Caliper Comparison Group	2,732	26.4%	24.3%	2,186	26.5%	24.4%	-0.05 pp	-2.24 pp	2.14 pp
Renal Failure	Main	6,370	33.8%	31.0%	6,018	33.0%	32.5%	-2.28 pp	-3.78 pp	-0.78 pp
	No ACO Episodes	5,532	33.7%	30.6%	5,220	32.9%	32.6%	-2.76 pp	-4.30 pp	-1.23 pp
	No Caliper Comparison Group	8,031	33.5%	31.0%	6,208	33.0%	32.4%	-1.87 pp	-3.38 pp	-0.35 pp
Sepsis	Main	31,257	30.0%	28.6%	27,012	31.0%	30.0%	-0.46 pp	-1.31 pp	0.40 pp
	No ACO Episodes	27,787	30.0%	28.6%	23,026	31.0%	30.2%	-0.61 pp ‡	-1.52 pp	0.30 pp
	No Caliper Comparison Group	36,729	29.9%	28.4%	29,487	30.7%	30.0%	-0.83 pp ‡	-1.68 pp	0.03 pp
SPRI	Main	23,496	28.4%	25.9%	18,487	28.6%	26.4%	-0.39 pp	-1.39 pp	0.62 pp
	No ACO Episodes	20,476	28.4%	25.9%	15,594	28.6%	26.6%	-0.50 pp	-1.55 pp	0.56 pp
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stroke	Main	5,482	24.4%	21.6%	4,469	24.2%	22.4%	-0.94 pp	-2.36 pp	0.48 pp
	No ACO Episodes	4,900	24.3%	21.6%	3,618	24.3%	22.6%	-0.96 pp	-2.49 pp	0.57 pp
	No Caliper Comparison Group	8,447	24.1%	22.1%	6,299	24.1%	22.1%	-0.05 pp	-1.26 pp	1.17 pp

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
UTI	Main	6,463	29.9%	27.9%	4,663	31.5%	31.2%	-1.78 pp	-3.48 pp	-0.08 pp
	No ACO Episodes	5,732	29.9%	28.1%	3,528	31.6%	31.0%	-1.10 pp	-2.93 pp	0.73 pp
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: See the first page of this appendix for data sources and more information.

Exhibit H.13: BPCI Advanced Impact Estimate and Sensitivity Test Results, Unplanned Readmissions Through the 90-day PDP, Surgical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
Hip & Femur Procedures	Main	9,295	22.5%	20.3%	7,276	22.2%	20.0%	0.06 pp	-1.15 pp	1.26 pp
	No ACO Episodes	8,270	22.4%	20.5%	6,172	22.2%	20.0%	0.25 pp	-1.07 pp	1.56 pp
	No Caliper Comparison Group	11,389	22.3%	20.1%	7,559	22.1%	19.9%	-0.02 pp	-1.18 pp	1.14 pp
MJRLE	Main	30,292	11.0%	8.9%	23,632	11.2%	9.1%	0.05 pp	-0.53 pp	0.63 pp
	No ACO Episodes	26,355	11.0%	8.9%	20,028	11.3%	9.1%	0.12 pp	-0.49 pp	0.73 pp
	No Caliper Comparison Group	40,182	11.1%	8.9%	26,386	11.1%	9.0%	-0.04 pp	-0.58 pp	0.51 pp
MJRUE	Main	4,453	9.4%	14.1%	4,727	9.8%	15.1%	-0.70 pp	-5.50 pp	4.09 pp
	No ACO Episodes	3,836	9.5%	14.3%	4,111	9.7%	15.0%	-0.47 pp	-5.67 pp	4.73 pp
	No Caliper Comparison Group	5,986	9.4%	14.2%	5,010	9.5%	15.2%	-0.82 pp	-5.33 pp	3.70 pp
PCI (IP)	Main	3,495	25.9%	22.2%	2,396	26.0%	22.2%	0.09 pp	-1.66 pp	1.84 pp
	No ACO Episodes	3,045	26.0%	22.0%	1,971	25.9%	21.8%	0.14 pp	-1.60 pp	1.87 pp
	No Caliper Comparison Group	3,526	25.9%	22.3%	2,403	25.9%	22.2%	0.18 pp	-1.58 pp	1.94 pp
Spinal Fusion	Main	5,970	13.5%	12.4%	4,613	12.7%	12.2%	-0.53 pp	-1.81 pp	0.75 pp
	No ACO Episodes	4,971	13.4%	12.4%	3,752	12.8%	11.9%	-0.16 pp	-1.51 pp	1.19 pp
	No Caliper Comparison Group	7,538	13.6%	12.1%	5,727	12.7%	12.0%	-0.83 pp	-2.03 pp	0.37 pp

Note: See the first page of this appendix for data sources and more information.

Exhibit H.14: BPCI Advanced Impact Estimate and Sensitivity Test Results, Mortality During the Anchor Stay Through the 90-day PDP, Medical Clinical Episodes, PGP, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
AMI	Main	4,898	18.5%	18.6%	4,032	18.8%	18.5%	0.32 pp	-1.28 pp	1.92 pp
	No ACO Episodes	4,469	18.5%	18.6%	3,323	18.9%	18.8%	0.14 pp	-1.58 pp	1.85 pp
	No Caliper Comparison Group	5,196	18.6%	19.0%	4,208	18.9%	18.4%	0.74 pp	-0.85 pp	2.33 pp
Cardiac Arrhythmia	Main	6,849	10.6%	10.0%	5,491	10.5%	10.6%	-0.63 pp	-1.44 pp	0.17 pp
	No ACO Episodes	5,983	10.7%	10.0%	4,382	10.7%	10.4%	-0.41 pp	-1.28 pp	0.45 pp
	No Caliper Comparison Group	7,133	10.6%	9.9%	5,623	10.6%	10.6%	-0.71 pp	-1.50 pp	0.09 pp
Cellulitis	Main	2,285	7.6%	7.4%	1,760	7.2%	6.8%	0.25 pp	-1.04 pp	1.55 pp
	No ACO Episodes	1,989	7.6%	7.3%	1,514	7.3%	6.5%	0.43 pp	-0.83 pp	1.70 pp
	No Caliper Comparison Group	2,871	7.5%	7.3%	1,852	7.1%	6.8%	0.18 pp	-0.96 pp	1.32 pp
COPD	Main	5,900	9.3%	8.3%	4,643	9.2%	8.4%	-0.16 pp	-1.11 pp	0.78 pp
	No ACO Episodes	5,240	9.3%	8.4%	3,785	9.2%	8.5%	-0.19 pp	-1.20 pp	0.81 pp
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHF	Main	9,285	21.2%	18.7%	7,325	20.7%	19.2%	-0.94 pp	-2.41 pp	0.53 pp
	No ACO Episodes	7,812	21.5%	18.7%	6,118	20.8%	18.8%	-0.81 pp	-2.22 pp	0.60 pp
	No Caliper Comparison Group	12,522	20.9%	18.9%	9,240	20.7%	19.4%	-0.67 pp	-1.94 pp	0.60 pp
GI Hemorrhage	Main	7,510	12.7%	11.8%	6,530	12.1%	11.5%	-0.31 pp ‡	-1.35 pp	0.73 pp
	No ACO Episodes	6,649	12.7%	11.8%	5,781	12.1%	11.6%	-0.36 pp ‡	-1.44 pp	0.71 pp
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GI Obstruction	Main	2,762	10.4%	8.7%	2,172	10.7%	8.6%	0.44 pp	-0.85 pp	1.72 pp
	No ACO Episodes	2,475	10.5%	8.5%	1,802	10.9%	8.5%	0.38 pp	-1.01 pp	1.76 pp
	No Caliper Comparison Group	2,765	10.4%	8.7%	2,207	10.7%	8.6%	0.48 pp	-0.79 pp	1.76 pp
Renal Failure	Main	6,465	19.9%	20.6%	6,155	20.8%	20.9%	0.67 pp	-0.68 pp	2.02 pp
	No ACO Episodes	5,615	19.9%	20.4%	5,345	20.9%	20.6%	0.82 pp	-0.54 pp	2.18 pp
	No Caliper Comparison Group	8,160	20.1%	20.6%	6,346	20.9%	20.7%	0.60 pp	-0.68 pp	1.88 pp

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
Sepsis	Main	35,235	29.8%	28.1%	30,765	27.6%	27.8%	-1.86 pp	-3.17 pp	-0.55 pp
	No ACO Episodes	31,390	30.0%	28.0%	26,309	27.8%	27.7%	-1.91 pp	-3.25 pp	-0.58 pp
	No Caliper Comparison Group	41,294	29.8%	27.6%	33,617	27.6%	27.6%	-2.20 pp ‡	-3.50 pp	-0.90 pp
SPRI	Main	24,821	20.7%	18.9%	19,454	20.2%	19.5%	-1.14 pp	-2.13 pp	-0.15 pp
	No ACO Episodes	21,659	20.9%	18.8%	16,456	20.5%	19.5%	-1.13 pp	-2.20 pp	-0.05 pp
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stroke	Main	5,676	20.8%	18.5%	4,719	21.7%	20.4%	-0.93 pp	-2.74 pp	0.88 pp
	No ACO Episodes	5,080	20.9%	18.2%	3,829	21.9%	20.6%	-1.42 pp ‡	-3.33 pp	0.50 pp
	No Caliper Comparison Group	8,817	21.1%	18.5%	6,650	21.8%	20.1%	-0.95 pp	-2.36 pp	0.46 pp
UTI	Main	6,393	12.9%	14.8%	4,611	12.9%	14.3%	0.53 pp	-0.63 pp	1.70 pp
	No ACO Episodes	5,670	13.0%	14.8%	3,488	13.1%	14.3%	0.60 pp	-0.68 pp	1.88 pp
	No Caliper Comparison Group	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: See the first page of this appendix for data sources and more information.

Exhibit H.15: BPCI Advanced Impact Estimate and Sensitivity Test Results, Mortality During the Anchor Stay Through the 90-day PDP, Surgical Clinical Episodes, PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
Hip & Femur Procedures	Main	9,180	12.6%	12.3%	7,160	12.6%	12.4%	-0.18 pp	-1.10 pp	0.75 pp
	No ACO Episodes	8,171	12.7%	12.3%	6,067	12.6%	12.3%	-0.09 pp	-1.10 pp	0.92 pp
	No Caliper Comparison Group	11,248	12.6%	12.4%	7,439	12.6%	12.3%	0.09 pp	-0.77 pp	0.96 pp
MJRLE	Main	30,219	2.2%	2.3%	23,607	2.2%	2.2%	0.09 pp	-0.17 pp	0.35 pp
	No ACO Episodes	26,290	2.2%	2.3%	20,007	2.2%	2.2%	0.07 pp	-0.21 pp	0.34 pp
	No Caliper Comparison Group	40,097	2.2%	2.2%	26,356	2.2%	2.2%	-0.01 pp	-0.24 pp	0.23 pp

Clinical Episode	Result	BPCI Advanced			Comparison			DiD	90% LCI	90% UCI
		MY3 Episodes (N)	Baseline	MY3	MY3 Episodes (N)	Baseline	MY3			
MJRUE	Main	4,384	0.7%	0.9%	4,660	0.6%	0.6%	0.20 pp	-0.09 pp	0.49 pp
	No ACO Episodes	3,777	0.7%	1.0%	4,048	0.6%	0.6%	0.29 pp	-0.02 pp	0.61 pp
	No Caliper Comparison Group	5,938	0.6%	0.7%	4,965	0.6%	0.6%	0.05 pp	-0.21 pp	0.31 pp
PCI (IP)	Main	3,564	6.2%	6.8%	2,449	5.8%	5.4%	0.98 pp	-0.39 pp	2.36 pp
	No ACO Episodes	3,104	6.2%	6.7%	2,013	5.8%	5.3%	1.00 pp	-0.45 pp	2.45 pp
	No Caliper Comparison Group	3,595	6.2%	6.8%	2,455	5.8%	5.4%	0.94 pp	-0.42 pp	2.31 pp
Spinal Fusion	Main	5,983	1.1%	1.4%	4,619	1.0%	1.0%	0.21 pp	-0.06 pp	0.49 pp
	No ACO Episodes	4,983	1.1%	1.4%	3,758	1.0%	0.9%	0.29 pp	0.04 pp	0.55 pp
	No Caliper Comparison Group	7,555	1.1%	1.3%	5,733	1.0%	1.0%	0.26 pp	-0.03 pp	0.54 pp

Note: See the first page of this appendix for data sources and more information.

Appendix I: Tables of Differences in Functional Status, Care Experience, and Satisfaction Results

The following tables display the results for respondents to the beneficiary survey, which provides information regarding self-reported changes in functional status, care experiences, and satisfaction for beneficiaries with episodes in of Model Year 4 (2021). The estimates are the result of cross-sectional logistic regression models for binary or trinary indicators, controlling for beneficiary, hospital, and neighborhood characteristics. All responses were weighted for non-response and sampling design. Results are reported in percentage point terms. The tables below show estimates pooled across all 34 clinical episodes for hospitals, including separate estimates for medical and surgical clinical episodes, as well as pooled across all 34 clinical episodes for PGPs, including separate estimates for medical and surgical episodes. Subsequent tables show results by CESLG for hospitals and PGPs for CESLGs with a minimum detectable difference of 10.0 or less. The LCI and UCI are displayed for the 5% and 10% level of significance. We also report p-values to indicate joint significance for measures with multiple outcomes. All results are based on the BPCI Advanced evaluation team’s analysis of BPCI Advanced and comparison beneficiary survey responses for episodes that began July or August 2021.

Please refer to the following abbreviations, which are used throughout this appendix:

- CESLG = clinical episode service line group
- LCI = lower confidence interval
- PGP = physician group practice
- PP = percentage points
- UCI = upper confidence interval

Exhibit I.1: Beneficiary Survey Sample Sizes, Wave 2 (July and August 2021)

Analytic Sample	BPCI Advanced Respondents (N)	Comparison Respondents (N)
All Hospital Episodes	4,128	4,291
All Medical CESLGs	2,860	2,969
All Surgical CESLGs	1,268	1,322
Cardiac Care	890	898
Cardiac Procedures	351	351
Medical and Critical Care	1,448	1,529
Orthopedics	577	618
Spinal Procedures	301	324
All PGP Episodes	2,159	1,900
All Medical CESLGs	1,483	1,307
All Surgical CESLGs	676	593
Cardiac Care	414	370
Medical and Critical Care	805	672
Orthopedics	457	402

Exhibit I.2: Beneficiary Survey Outcomes for Hospitals, Pooled Across Episodes, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	59.9	61.1	-1.2	-3.7	1.3	-3.3	0.9	0.629
		Maintained	14.6	14.1	0.5	-1.4	2.4	-1.1	2.1	
		Declined	25.6	24.9	0.7	-1.8	3.2	-1.4	2.8	
	Planning regular tasks	Improvement	59.7	60.9	-1.1	-3.5	1.2	-3.1	0.8	0.577
		Maintained	13.8	12.9	0.8	-1.1	2.8	-0.8	2.4	
		Declined	26.5	26.2	0.3	-1.9	2.6	-1.6	2.2	
	Use of mobility device	Improvement	39.0	39.5	-0.5	-2.9	1.9	-2.5	1.5	0.742
		Maintained	12.9	13.4	-0.5	-2.2	1.3	-1.9	1.0	
		Declined	48.1	47.1	1.0	-1.6	3.5	-1.2	3.1	
	Walking without rest	Improvement	32.3	32.7	-0.4	-2.9	2.1	-2.5	1.7	0.778
		Maintained	22.6	23.1	-0.5	-2.8	1.8	-2.4	1.4	
		Declined	45.2	44.3	0.9	-1.6	3.5	-1.2	3.1	
	Going up or down stairs	Improvement	31.0	34.2	-3.2	-5.7	-0.6	-5.3	-1.1	0.048
		Maintained	24.1	22.8	1.3	-1.1	3.6	-0.7	3.2	
		Declined	44.9	43.0	1.9	-0.6	4.4	-0.2	4.0	
	Physical/emotional problems limiting social activities	Improvement	47.4	49.3	-1.9	-5.0	1.2	-4.5	0.7	0.448
		Maintained	22.2	21.1	1.1	-1.5	3.8	-1.1	3.3	
		Declined	30.4	29.6	0.8	-2.2	3.8	-1.7	3.3	
Pain limiting regular activities	Improvement	42.1	44.9	-2.9	-6.1	0.3	-5.5	-0.2	0.184	
	Maintained	30.8	28.8	2.0	-1.0	5.0	-0.5	4.5		
	Declined	27.1	26.3	0.9	-2.1	3.8	-1.6	3.4		

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.1	90.1	0.1	-2.0	2.2	-1.7	1.8	0.956
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	84.2	86.9	-2.8	-5.4	-0.2	-5.0	-0.6	0.036
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	89.0	89.2	-0.2	-2.5	2.0	-2.1	1.6	0.844
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	89.0	89.4	-0.4	-2.6	1.8	-2.2	1.4	0.720
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	89.6	90.1	-0.5	-2.7	1.7	-2.4	1.4	0.660
	Able to manage your health needs since returning home	Strongly Agree or Agree	94.1	93.3	0.8	-0.9	2.6	-0.7	2.3	0.361
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.3	87.3	-2.1	-4.5	0.4	-4.1	0.0	0.099
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	70.3	72.2	-1.9	-5.7	1.9	-5.1	1.3	0.321
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	57.3	58.3	-0.9	-3.9	2.0	-3.4	1.5	0.537
	Rating of all care received after leaving the hospital	9-10	56.6	57.9	-1.3	-4.5	1.9	-4.0	1.4	0.387
		7-8	24.4	25.0	-0.5	-3.3	2.2	-2.9	1.8	
0-6	19.0	17.2	1.9	-0.8	4.5	-0.4	4.1			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.3: Beneficiary Survey Outcomes for Hospitals, Medical Episode, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	58.2	59.3	-1.1	-3.8	1.7	-3.4	1.2	0.712
		Maintained	15.4	14.8	0.6	-1.5	2.8	-1.2	2.4	
		Declined	26.4	25.9	0.4	-2.3	3.2	-1.9	2.8	
	Planning regular tasks	Improvement	57.7	58.6	-0.9	-3.5	1.7	-3.1	1.3	0.707
		Maintained	14.5	13.7	0.8	-1.4	3.0	-1.0	2.7	
		Declined	27.9	27.8	0.1	-2.4	2.6	-2.0	2.2	
	Use of mobility device	Improvement	37.4	38.2	-0.8	-3.4	1.9	-3.0	1.4	0.623
		Maintained	13.0	13.6	-0.6	-2.6	1.4	-2.2	1.1	
		Declined	49.6	48.2	1.4	-1.4	4.2	-1.0	3.7	
	Walking without rest	Improvement	29.9	30.3	-0.4	-3.1	2.3	-2.7	1.9	0.809
		Maintained	23.2	23.7	-0.5	-3.1	2.0	-2.7	1.6	
		Declined	46.9	46.0	0.9	-1.9	3.8	-1.4	3.3	
	Going up or down stairs	Improvement	29.0	32.5	-3.6	-6.4	-0.8	-5.9	-1.2	0.044
		Maintained	24.3	22.8	1.5	-1.1	4.1	-0.7	3.7	
		Declined	46.7	44.6	2.0	-0.7	4.8	-0.3	4.4	
	Physical/emotional problems limiting social activities	Improvement	46.1	48.0	-1.9	-5.3	1.5	-4.8	1.0	0.542
		Maintained	22.7	21.7	1.0	-1.9	3.9	-1.4	3.5	
		Declined	31.3	30.4	0.9	-2.4	4.2	-1.9	3.7	
	Pain limiting regular activities	Improvement	40.0	43.1	-3.1	-6.7	0.4	-6.1	-0.2	0.214
		Maintained	32.1	30.1	2.0	-1.3	5.3	-0.8	4.8	
		Declined	27.9	26.8	1.1	-2.2	4.4	-1.7	3.9	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.0	89.8	0.1	-2.2	2.5	-1.8	2.1	0.910
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	83.3	86.3	-3.0	-5.9	0.0	-5.4	-0.5	0.046
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	88.6	88.7	-0.2	-2.7	2.4	-2.3	2.0	0.904
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	88.4	88.8	-0.3	-2.8	2.2	-2.4	1.7	0.789
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	89.1	89.7	-0.6	-3.1	2.0	-2.7	1.6	0.672
	Able to manage your health needs since returning home	Strongly Agree or Agree	93.8	92.8	1.1	-0.9	3.0	-0.6	2.7	0.288
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	84.5	86.9	-2.4	-5.1	0.4	-4.7	0.0	0.096
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	69.4	71.9	-2.5	-6.7	1.7	-6.0	1.0	0.245
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	56.1	56.8	-0.7	-4.0	2.6	-3.5	2.1	0.684
	Rating of all care received after leaving the hospital	9-10	55.2	56.6	-1.4	-4.9	2.2	-4.4	1.6	0.394
		7-8	25.0	25.7	-0.7	-3.8	2.4	-3.3	1.9	
0-6	19.8	17.7	2.0	-0.9	5.0	-0.4	4.5			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.4: Beneficiary Survey Outcomes for Hospitals, Surgical Episodes, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	72.6	74.8	-2.3	-5.4	0.9	-4.9	0.4	0.243
		Maintained	8.1	8.3	-0.2	-2.4	2.0	-2.1	1.7	
		Declined	19.3	16.8	2.5	-0.4	5.4	0.0	4.9	
	Planning regular tasks	Improvement	75.5	78.8	-3.3	-6.2	-0.3	-5.7	-0.8	0.081
		Maintained	8.2	7.4	0.8	-1.4	3.1	-1.0	2.7	
		Declined	16.3	13.8	2.4	-0.1	4.9	0.3	4.5	
	Use of mobility device	Improvement	51.1	49.4	1.8	-1.7	5.2	-1.1	4.7	0.469
		Maintained	12.2	11.8	0.4	-1.9	2.7	-1.6	2.3	
		Declined	36.7	38.8	-2.2	-5.6	1.3	-5.1	0.7	
	Walking without rest	Improvement	50.1	50.5	-0.4	-4.3	3.5	-3.7	2.9	0.971
		Maintained	17.9	17.9	0.0	-3.6	3.6	-3.0	3.0	
		Declined	32.0	31.6	0.4	-3.1	3.9	-2.5	3.3	
	Going up or down stairs	Improvement	46.8	46.4	0.3	-3.5	4.2	-2.9	3.5	0.928
		Maintained	22.1	22.7	-0.6	-3.8	2.6	-3.3	2.0	
		Declined	31.1	30.8	0.3	-3.5	4.1	-2.9	3.5	
	Physical/emotional problems limiting social activities	Improvement	57.6	59.8	-2.2	-6.3	1.8	-5.6	1.1	0.420
		Maintained	18.5	16.4	2.1	-1.3	5.5	-0.7	5.0	
		Declined	23.9	23.8	0.1	-3.5	3.7	-2.9	3.1	
	Pain limiting regular activities	Improvement	57.7	58.8	-1.1	-5.1	3.0	-4.5	2.3	0.458
		Maintained	20.7	18.8	1.9	-1.1	5.0	-0.6	4.5	
		Declined	21.6	22.5	-0.9	-4.6	2.8	-4.0	2.2	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	91.5	92.0	-0.5	-2.6	1.6	-2.2	1.3	0.666
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	90.5	92.0	-1.4	-4.0	1.1	-3.5	0.7	0.269
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	92.0	92.4	-0.5	-2.9	2.0	-2.5	1.6	0.700
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	93.0	93.8	-0.7	-3.0	1.5	-2.6	1.1	0.522
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	92.7	92.7	0.0	-2.4	2.4	-2.0	2.0	0.993
	Able to manage your health needs since returning home	Strongly Agree or Agree	96.1	97.1	-1.0	-2.5	0.4	-2.2	0.1	0.149
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	90.5	90.5	0.0	-3.0	3.0	-2.5	2.5	0.996
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	77.0	74.2	2.8	-2.3	7.9	-1.5	7.1	0.284
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	66.9	69.6	-2.8	-6.7	1.1	-6.0	0.5	0.166
	Rating of all care received after leaving the hospital	9-10	66.9	67.9	-1.0	-5.3	3.2	-4.6	2.5	0.892
		7-8	19.8	19.2	0.7	-2.9	4.2	-2.3	3.6	
		0-6	13.3	12.9	0.3	-2.7	3.4	-2.2	2.9	

Note: See the first page of this appendix for data sources and more information.

Exhibit I.5: Beneficiary Survey Outcomes for PGPs, Pooled Across Episodes, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	64.1	65.9	-1.9	-4.8	1.1	-4.3	0.6	0.309
		Maintained	14.5	13.1	1.4	-0.7	3.5	-0.3	3.2	
		Declined	21.4	20.9	0.5	-2.4	3.3	-1.9	2.8	
	Planning regular tasks	Improvement	65.6	65.5	0.1	-2.6	2.9	-2.2	2.4	0.219
		Maintained	10.9	12.8	-1.9	-4.2	0.3	-3.8	0.0	
		Declined	23.4	21.7	1.8	-1.1	4.6	-0.6	4.2	
	Use of mobility device	Improvement	42.9	43.1	-0.2	-3.0	2.6	-2.5	2.2	0.261
		Maintained	12.2	13.9	-1.7	-3.9	0.6	-3.6	0.2	
		Declined	44.9	43.0	1.8	-1.0	4.7	-0.5	4.2	
	Walking without rest	Improvement	36.4	37.4	-1.0	-4.0	1.9	-3.5	1.4	0.433
		Maintained	23.6	24.3	-0.7	-3.4	2.1	-3.0	1.6	
		Declined	40.0	38.3	1.7	-0.9	4.3	-0.5	3.9	
	Going up or down stairs	Improvement	36.6	37.3	-0.7	-3.7	2.2	-3.2	1.7	0.514
		Maintained	24.1	25.1	-1.1	-4.1	2.0	-3.6	1.5	
		Declined	39.3	37.5	1.8	-1.2	4.8	-0.8	4.3	
	Physical/emotional problems limiting social activities	Improvement	50.1	52.2	-2.0	-5.4	1.4	-4.9	0.8	0.499
		Maintained	21.9	21.2	0.7	-2.2	3.6	-1.7	3.1	
		Declined	27.9	26.6	1.3	-1.8	4.4	-1.3	3.9	
	Pain limiting regular activities	Improvement	50.3	46.7	3.6	0.3	7.0	0.8	6.4	0.056
		Maintained	26.5	30.1	-3.7	-7.0	-0.4	-6.4	-0.9	
		Declined	23.2	23.2	0.1	-2.8	2.9	-2.4	2.5	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.0	91.4	-1.4	-3.6	0.9	-3.3	0.6	0.242
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	88.2	88.4	-0.2	-2.7	2.4	-2.3	2.0	0.904
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	90.8	91.3	-0.5	-2.6	1.6	-2.2	1.3	0.661
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	89.9	89.8	0.1	-2.2	2.4	-1.8	2.1	0.921
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	91.0	91.4	-0.4	-2.7	1.9	-2.3	1.5	0.745
	Able to manage your health needs since returning home	Strongly Agree or Agree	93.5	92.9	0.6	-1.4	2.5	-1.1	2.2	0.579
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	88.4	87.7	0.7	-2.1	3.4	-1.7	3.0	0.645
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	75.4	69.4	5.9	1.7	10.2	2.4	9.5	0.006
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	62.0	62.3	-0.4	-3.5	2.8	-3.0	2.3	0.821
	Rating of all care received after leaving the hospital	9-10	60.1	59.1	1.0	-2.6	4.7	-2.0	4.1	0.532
		7-8	22.8	24.6	-1.8	-4.9	1.4	-4.4	0.9	
0-6	17.1	16.3	0.7	-2.2	3.7	-1.7	3.2			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.6: Beneficiary Survey Outcomes for PGPs, Medical Episodes, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	59.1	61.0	-1.9	-5.5	1.7	-4.9	1.1	0.211
		Maintained	17.5	15.2	2.4	-0.3	5.0	0.1	4.6	
		Declined	23.4	23.8	-0.4	-4.0	3.1	-3.4	2.5	
	Planning regular tasks	Improvement	58.6	58.4	0.3	-3.2	3.7	-2.6	3.1	0.334
		Maintained	12.9	14.9	-2.1	-4.9	0.7	-4.4	0.3	
		Declined	28.5	26.7	1.8	-1.9	5.6	-1.3	4.9	
	Use of mobility device	Improvement	38.0	38.8	-0.8	-3.9	2.2	-3.4	1.7	0.235
		Maintained	12.8	14.6	-1.7	-4.3	0.9	-3.9	0.5	
		Declined	49.2	46.6	2.6	-0.6	5.8	-0.1	5.2	
	Walking without rest	Improvement	29.5	31.0	-1.5	-4.9	1.8	-4.3	1.3	0.524
		Maintained	26.5	26.7	-0.1	-3.6	3.3	-3.0	2.8	
		Declined	44.0	42.3	1.7	-1.6	4.9	-1.0	4.4	
	Going up or down stairs	Improvement	31.2	31.1	0.1	-3.3	3.4	-2.7	2.9	0.976
		Maintained	24.7	25.1	-0.4	-4.0	3.2	-3.4	2.6	
		Declined	44.1	43.8	0.3	-3.5	4.1	-2.9	3.5	
	Physical/emotional problems limiting social activities	Improvement	44.3	45.5	-1.2	-5.3	2.9	-4.6	2.3	0.854
		Maintained	23.9	23.5	0.4	-3.2	4.1	-2.6	3.5	
		Declined	31.7	31.0	0.8	-3.1	4.6	-2.5	4.0	
Pain limiting regular activities	Improvement	42.5	39.6	2.8	-1.3	7.0	-0.6	6.3	0.281	
	Maintained	31.2	34.5	-3.3	-7.5	1.0	-6.8	0.3		
	Declined	26.3	25.9	0.4	-3.3	4.2	-2.7	3.5		

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.4	90.1	0.3	-2.4	3.0	-2.0	2.5	0.832
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	86.9	86.3	0.6	-2.6	3.8	-2.1	3.3	0.704
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	90.1	89.9	0.2	-2.4	2.9	-2.0	2.4	0.865
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	88.7	88.1	0.6	-2.4	3.5	-1.9	3.0	0.701
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	90.2	89.7	0.5	-2.4	3.4	-1.9	2.9	0.729
	Able to manage your health needs since returning home	Strongly Agree or Agree	92.9	91.8	1.0	-1.5	3.5	-1.1	3.1	0.419
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.1	84.7	0.4	-3.3	4.1	-2.7	3.5	0.820
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	73.4	67.6	5.8	0.6	11.0	1.4	10.1	0.029
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	58.7	57.0	1.8	-2.1	5.6	-1.5	5.0	0.368
	Rating of all care received after leaving the hospital	9-10	55.5	53.8	1.7	-2.8	6.1	-2.0	5.4	
		7-8	24.4	26.9	-2.5	-6.5	1.4	-5.8	0.8	
		0-6	20.1	19.3	0.8	-2.9	4.5	-2.3	3.9	

Note: See the first page of this appendix for data sources and more information.

Exhibit I.7: Beneficiary Survey Outcomes for PGPs, Surgical Episodes, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	75.3	77.3	-2.0	-6.4	2.5	-5.7	1.7	0.566
		Maintained	7.9	8.2	-0.3	-3.0	2.5	-2.6	2.0	
		Declined	16.8	14.5	2.3	-1.9	6.4	-1.2	5.7	
	Planning regular tasks	Improvement	81.9	81.3	0.6	-3.3	4.4	-2.7	3.8	0.402
		Maintained	6.5	8.1	-1.6	-4.2	1.0	-3.8	0.6	
		Declined	11.6	10.5	1.1	-2.0	4.2	-1.5	3.7	
	Use of mobility device	Improvement	54.7	52.4	2.3	-3.1	7.7	-2.2	6.8	0.690
		Maintained	11.0	12.0	-1.0	-5.0	3.0	-4.4	2.3	
		Declined	34.4	35.6	-1.3	-6.6	4.0	-5.7	3.2	
	Walking without rest	Improvement	52.2	51.8	0.4	-5.3	6.2	-4.4	5.3	0.853
		Maintained	17.3	18.6	-1.3	-6.2	3.6	-5.4	2.8	
		Declined	30.5	29.6	0.8	-3.8	5.5	-3.0	4.7	
	Going up or down stairs	Improvement	48.7	51.4	-2.7	-8.6	3.2	-7.6	2.2	0.101
		Maintained	22.8	25.4	-2.6	-8.2	2.9	-7.3	2.0	
		Declined	28.5	23.2	5.3	0.4	10.1	1.2	9.3	
	Physical/emotional problems limiting social activities	Improvement	63.3	66.8	-3.5	-9.3	2.3	-8.3	1.4	0.491
		Maintained	17.8	15.9	1.9	-2.7	6.6	-2.0	5.8	
		Declined	18.9	17.3	1.6	-3.4	6.5	-2.6	5.7	
Pain limiting regular activities	Improvement	68.1	62.6	5.5	0.6	10.4	1.4	9.6	0.078	
	Maintained	15.7	20.1	-4.4	-8.9	0.2	-8.2	-0.6		
	Declined	16.2	17.3	-1.1	-5.0	2.7	-4.3	2.1		

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	89.1	94.3	-5.2	-9.3	-1.1	-8.6	-1.8	0.013
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	91.4	92.9	-1.5	-5.2	2.3	-4.6	1.7	0.437
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	92.5	94.2	-1.7	-4.8	1.4	-4.2	0.9	0.295
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	92.5	93.3	-0.7	-4.2	2.7	-3.6	2.1	0.670
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	92.8	95.0	-2.2	-5.4	0.9	-4.8	0.4	0.160
	Able to manage your health needs since returning home	Strongly Agree or Agree	94.7	95.2	-0.4	-3.4	2.5	-2.9	2.0	0.766
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	94.7	94.0	0.8	-2.3	3.8	-1.8	3.3	0.627
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	79.6	73.4	6.3	-1.7	14.2	-0.4	12.9	0.122
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	69.5	74.4	-4.9	-10.4	0.5	-9.5	-0.4
Rating of all care received after leaving the hospital		9-10	70.7	70.7	0.0	-5.9	5.8	-4.9	4.8	0.949
		7-8	19.1	19.6	-0.5	-5.5	4.4	-4.7	3.6	
		0-6	10.2	9.7	0.6	-3.4	4.5	-2.7	3.9	

Note: See the first page of this appendix for data sources and more information.

Exhibit I.8: Beneficiary Survey Outcomes for Hospitals, Cardiac Care CESLG, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	58.3	60.9	-2.5	-7.0	1.9	-6.3	1.2	0.353
		Maintained	19.8	17.4	2.3	-1.2	5.8	-0.6	5.3	
		Declined	21.9	21.7	0.2	-4.2	4.6	-3.5	3.9	
	Planning regular tasks	Improvement	59.9	62.6	-2.8	-7.1	1.6	-6.4	0.9	0.454
		Maintained	15.1	14.4	0.7	-3.2	4.6	-2.6	4.0	
		Declined	25.0	22.9	2.1	-2.4	6.6	-1.7	5.9	
	Use of mobility device	Improvement	37.1	39.8	-2.7	-6.9	1.5	-6.2	0.8	0.108
		Maintained	13.6	15.7	-2.1	-5.5	1.3	-5.0	0.7	
		Declined	49.3	44.5	4.8	0.3	9.3	1.0	8.6	
	Walking without rest	Improvement	26.1	29.7	-3.5	-7.7	0.6	-7.0	-0.1	0.196
		Maintained	26.4	26.2	0.2	-4.1	4.5	-3.4	3.8	
		Declined	47.5	44.1	3.3	-1.2	7.9	-0.5	7.2	
	Going up or down stairs	Improvement	28.4	29.1	-0.6	-5.0	3.7	-4.3	3.0	0.241
		Maintained	28.5	24.6	3.9	-0.7	8.5	0.0	7.7	
		Declined	43.1	46.3	-3.2	-8.2	1.7	-7.4	0.9	
	Physical/emotional problems limiting social activities	Improvement	48.0	49.1	-1.1	-6.5	4.4	-5.6	3.5	0.927
		Maintained	22.8	22.2	0.7	-4.2	5.6	-3.4	4.8	
		Declined	29.2	28.8	0.4	-4.8	5.6	-4.0	4.7	
	Pain limiting regular activities	Improvement	44.4	44.2	0.2	-5.4	5.8	-4.5	4.9	0.744
		Maintained	31.0	32.9	-1.8	-7.1	3.4	-6.2	2.6	
		Declined	24.6	22.9	1.6	-3.6	6.9	-2.8	6.0	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	93.5	93.7	-0.2	-2.7	2.3	-2.3	1.9	0.848
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	86.9	87.2	-0.3	-4.5	4.0	-3.8	3.3	0.899
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	88.6	91.4	-2.7	-6.5	1.0	-5.9	0.4	0.153
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	89.0	88.8	0.1	-3.8	4.0	-3.1	3.4	0.943
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	90.4	90.6	-0.2	-3.5	3.2	-3.0	2.6	0.909
	Able to manage your health needs since returning home	Strongly Agree or Agree	92.8	92.3	0.6	-2.6	3.7	-2.0	3.2	0.720
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.0	83.6	1.4	-3.1	5.9	-2.4	5.1	0.554
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	68.9	68.9	0.0	-7.4	7.5	-6.2	6.2	0.994
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	56.6	54.6	2.0	-3.0	7.1	-2.2	6.3	0.434
	Rating of all care received after leaving the hospital	9-10	61.2	53.5	7.7	2.0	13.5	2.9	12.5	0.025
		7-8	22.0	27.8	-5.7	-10.9	-0.6	-10.0	-1.5	
0-6	16.8	18.7	-2.0	-6.7	2.7	-5.9	2.0			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.9: Beneficiary Survey Outcomes for Hospitals, Medical and Critical Care CESLG, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	57.7	59.2	-1.6	-5.1	2.0	-4.6	1.5	0.698
		Maintained	15.1	14.6	0.5	-2.4	3.3	-1.9	2.9	
		Declined	27.3	26.2	1.1	-2.5	4.7	-1.9	4.1	
	Planning regular tasks	Improvement	57.3	58.2	-0.9	-4.4	2.5	-3.9	2.0	0.756
		Maintained	14.3	13.3	1.0	-1.8	3.9	-1.3	3.4	
		Declined	28.4	28.5	-0.1	-3.4	3.2	-2.9	2.7	
	Use of mobility device	Improvement	37.0	36.8	0.2	-3.2	3.7	-2.7	3.1	0.990
		Maintained	13.2	13.1	0.0	-2.5	2.6	-2.1	2.2	
		Declined	49.8	50.1	-0.3	-3.9	3.4	-3.3	2.8	
	Walking without rest	Improvement	29.8	30.5	-0.7	-4.4	2.9	-3.8	2.3	0.859
		Maintained	22.8	23.1	-0.3	-3.8	3.2	-3.2	2.6	
		Declined	47.4	46.4	1.0	-2.7	4.7	-2.1	4.1	
	Going up or down stairs	Improvement	28.3	33.3	-5.1	-8.9	-1.3	-8.2	-1.9	0.022
		Maintained	23.3	22.4	1.0	-2.5	4.5	-2.0	4.0	
		Declined	48.4	44.3	4.1	0.4	7.8	1.0	7.2	
	Physical/emotional problems limiting social activities	Improvement	45.3	48.6	-3.3	-7.6	1.1	-6.9	0.4	0.342
		Maintained	23.5	21.9	1.6	-2.3	5.5	-1.7	4.9	
		Declined	31.2	29.6	1.6	-2.8	6.0	-2.0	5.3	
	Pain limiting regular activities	Improvement	39.0	43.5	-4.5	-9.1	0.1	-8.4	-0.7	0.155
		Maintained	32.6	30.3	2.4	-2.1	6.8	-1.3	6.0	
		Declined	28.4	26.3	2.2	-2.2	6.5	-1.5	5.8	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	89.5	89.8	-0.3	-3.4	2.9	-2.9	2.4	0.867
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	81.5	85.9	-4.4	-8.4	-0.4	-7.7	-1.1	0.030
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	88.5	88.3	0.2	-3.2	3.7	-2.6	3.1	0.888
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	88.1	89.1	-1.0	-4.3	2.3	-3.8	1.8	0.551
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	88.5	89.5	-1.0	-4.5	2.5	-3.9	1.9	0.568
	Able to manage your health needs since returning home	Strongly Agree or Agree	94.2	92.8	1.4	-1.1	4.0	-0.7	3.6	0.271
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	84.7	88.3	-3.6	-7.1	-0.1	-6.6	-0.6	0.045
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	70.4	72.9	-2.5	-8.0	3.0	-7.1	2.1	0.373
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	55.1	57.5	-2.4	-6.9	2.1	-6.2	1.4	0.302
	Rating of all care received after leaving the hospital	9-10	53.1	57.4	-4.3	-9.0	0.3	-8.2	-0.4	0.090
		7-8	26.0	25.7	0.3	-3.8	4.5	-3.1	3.8	
0-6	20.9	16.9	4.0	0.1	7.9	0.7	7.2			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.10: Beneficiary Survey Outcomes for Hospitals, Cardiac Procedures CESLG, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	88.2	85.6	2.7	-1.4	6.7	-0.8	6.1	0.432
		Maintained	4.3	4.9	-0.6	-3.3	2.1	-2.8	1.7	
		Declined	7.4	9.5	-2.1	-5.8	1.6	-5.2	1.0	
	Planning regular tasks	Improvement	82.1	82.5	-0.3	-5.4	4.7	-4.6	3.9	0.931
		Maintained	6.6	7.0	-0.4	-3.8	3.0	-3.3	2.5	
		Declined	11.3	10.5	0.8	-3.7	5.2	-2.9	4.5	
	Use of mobility device	Improvement	69.6	70.6	-1.0	-6.3	4.3	-5.4	3.5	0.093
		Maintained	14.0	9.5	4.5	0.3	8.6	1.0	7.9	
		Declined	16.4	19.9	-3.5	-8.6	1.7	-7.8	0.8	
	Walking without rest	Improvement	60.6	58.5	2.1	-4.6	8.8	-3.5	7.7	0.776
		Maintained	23.2	25.2	-2.1	-8.1	3.9	-7.1	3.0	
		Declined	16.2	16.3	-0.1	-5.3	5.2	-4.4	4.3	
	Going up or down stairs	Improvement	52.6	51.9	0.7	-6.1	7.6	-5.0	6.4	0.894
		Maintained	27.1	26.4	0.6	-5.0	6.2	-4.0	5.3	
		Declined	20.4	21.7	-1.3	-7.0	4.4	-6.1	3.4	
	Physical/emotional problems limiting social activities	Improvement	66.3	66.6	-0.3	-7.4	6.9	-6.3	5.7	0.288
		Maintained	20.4	17.0	3.5	-2.2	9.2	-1.3	8.2	
		Declined	13.2	16.4	-3.2	-8.5	2.1	-7.6	1.2	
	Pain limiting regular activities	Improvement	59.2	53.2	5.9	-1.3	13.2	-0.1	12.0	0.187
		Maintained	26.3	28.3	-2.0	-8.6	4.6	-7.5	3.5	
		Declined	14.5	18.4	-4.0	-9.0	1.1	-8.1	0.2	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	97.4	97.5	-0.1	-2.2	2.1	-1.9	1.8	0.961
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	93.4	93.0	0.4	-3.2	4.0	-2.6	3.4	0.819
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	93.1	93.7	-0.6	-4.0	2.8	-3.4	2.3	0.745
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	95.3	92.6	2.6	-1.1	6.3	-0.5	5.7	0.166
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	92.5	92.7	-0.2	-3.9	3.6	-3.3	3.0	0.936
	Able to manage your health needs since returning home	Strongly Agree or Agree	97.7	98.6	-0.9	-3.0	1.2	-2.7	0.8	0.389
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	89.4	87.5	1.9	-4.3	8.1	-3.3	7.1	0.550
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	66.9	64.3	2.6	-8.6	13.9	-6.7	12.0	0.643
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	75.3	77.2	-2.0	-8.1	4.2	-7.1	3.2	0.529
	Rating of all care received after leaving the hospital	9-10	70.8	73.5	-2.7	-9.9	4.6	-8.7	3.4	0.632
		7-8	19.1	15.8	3.3	-3.4	10.0	-2.3	8.9	
0-6	10.1	10.7	-0.6	-5.1	3.9	-4.4	3.2			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.11: Beneficiary Survey Outcomes for Hospitals, Orthopedics CESLG, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	63.9	66.8	-2.9	-7.4	1.6	-6.7	0.9	0.351
		Maintained	9.0	9.3	-0.3	-3.8	3.2	-3.2	2.6	
		Declined	27.1	23.9	3.2	-1.3	7.7	-0.6	6.9	
	Planning regular tasks	Improvement	69.9	74.0	-4.1	-8.2	-0.1	-7.5	-0.7	0.133
		Maintained	8.4	7.1	1.3	-1.5	4.1	-1.1	3.6	
		Declined	21.7	18.8	2.8	-1.3	6.9	-0.6	6.3	
	Use of mobility device	Improvement	41.1	38.1	3.0	-1.7	7.6	-0.9	6.9	0.311
		Maintained	10.1	9.6	0.6	-2.2	3.4	-1.8	2.9	
		Declined	48.8	52.3	-3.5	-8.1	1.0	-7.3	0.3	
	Walking without rest	Improvement	40.8	42.1	-1.3	-6.3	3.7	-5.5	2.9	0.715
		Maintained	13.1	13.8	-0.7	-4.9	3.5	-4.2	2.8	
		Declined	46.1	44.1	2.0	-2.8	6.9	-2.0	6.1	
	Going up or down stairs	Improvement	39.3	39.4	-0.1	-5.0	4.8	-4.2	4.0	0.305
		Maintained	17.8	20.9	-3.1	-7.4	1.2	-6.7	0.5	
		Declined	42.8	39.7	3.1	-1.9	8.2	-1.1	7.4	
	Physical/emotional problems limiting social activities	Improvement	52.6	55.6	-3.0	-8.1	2.0	-7.2	1.2	0.502
		Maintained	16.7	15.4	1.3	-3.2	5.8	-2.4	5.1	
		Declined	30.7	29.0	1.7	-2.8	6.2	-2.0	5.5	
	Pain limiting regular activities	Improvement	52.8	56.3	-3.4	-8.8	1.9	-7.9	1.1	0.243
		Maintained	20.0	16.4	3.5	-0.8	7.9	-0.1	7.2	
		Declined	27.2	27.3	-0.1	-5.1	4.8	-4.3	4.0	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	88.6	89.7	-1.1	-4.6	2.4	-4.0	1.9	0.544
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	90.0	91.1	-1.1	-4.5	2.3	-4.0	1.8	0.529
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	92.0	91.9	0.1	-3.5	3.7	-2.9	3.1	0.962
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	92.3	93.6	-1.3	-4.4	1.9	-3.9	1.4	0.434
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	93.1	92.7	0.5	-2.7	3.6	-2.2	3.1	0.780
	Able to manage your health needs since returning home	Strongly Agree or Agree	96.6	96.7	-0.1	-2.2	2.0	-1.8	1.6	0.929
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	91.4	92.5	-1.1	-4.8	2.6	-4.2	2.0	0.566
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	81.1	76.1	5.0	-1.2	11.2	-0.2	10.2	0.111
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	63.2	67.5	-4.3	-9.6	1.0	-8.7	0.1	0.110
	Rating of all care received after leaving the hospital	9-10	67.2	65.4	1.8	-3.9	7.6	-3.0	6.6	0.696
		7-8	18.6	20.5	-1.9	-6.2	2.5	-5.5	1.8	
0-6	14.2	14.1	0.0	-4.6	4.7	-3.9	3.9			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.12: Beneficiary Survey Outcomes for Hospitals, Spinal Procedures CESLG, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	72.0	75.7	-3.7	-10.5	3.0	-9.4	1.9	0.306
		Maintained	12.5	12.9	-0.4	-6.3	5.4	-5.4	4.5	
		Declined	15.5	11.3	4.2	-1.3	9.6	-0.4	8.7	
	Planning regular tasks	Improvement	76.8	81.5	-4.7	-9.9	0.5	-9.1	-0.3	0.173
		Maintained	11.8	10.4	1.4	-3.0	5.8	-2.3	5.1	
		Declined	11.4	8.1	3.3	-0.9	7.5	-0.2	6.8	
	Use of mobility device	Improvement	51.8	48.3	3.4	-3.4	10.3	-2.3	9.2	0.609
		Maintained	18.0	18.8	-0.8	-5.6	4.0	-4.8	3.2	
		Declined	30.2	32.8	-2.7	-9.2	3.9	-8.2	2.8	
	Walking without rest	Improvement	58.3	56.4	1.9	-5.4	9.2	-4.2	8.0	0.212
		Maintained	22.8	19.3	3.5	-3.1	10.2	-2.0	9.1	
		Declined	18.9	24.3	-5.4	-11.7	0.8	-10.6	-0.2	
	Going up or down stairs	Improvement	53.1	53.5	-0.4	-8.1	7.3	-6.8	6.0	0.052
		Maintained	30.1	23.4	6.6	-0.3	13.6	0.8	12.4	
		Declined	16.8	23.1	-6.2	-12.2	-0.3	-11.2	-1.2	
	Physical/emotional problems limiting social activities	Improvement	60.6	62.2	-1.6	-9.0	5.8	-7.8	4.6	0.660
		Maintained	22.6	19.5	3.1	-3.7	9.9	-2.6	8.8	
		Declined	16.8	18.3	-1.5	-7.8	4.8	-6.8	3.8	
	Pain limiting regular activities	Improvement	68.8	70.1	-1.3	-8.7	6.2	-7.5	5.0	0.454
		Maintained	14.8	17.1	-2.4	-8.2	3.4	-7.2	2.5	
		Declined	16.4	12.8	3.6	-2.7	10.0	-1.6	8.9	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.1	88.9	1.2	-3.4	5.8	-2.6	5.0	0.605
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	90.2	92.3	-2.1	-7.2	2.9	-6.4	2.1	0.407
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	91.9	90.1	1.8	-2.4	5.9	-1.7	5.3	0.400
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	92.8	94.6	-1.9	-6.2	2.4	-5.5	1.7	0.393
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	93.4	92.1	1.3	-2.7	5.3	-2.1	4.7	0.531
	Able to manage your health needs since returning home	Strongly Agree or Agree	93.3	95.4	-2.1	-6.0	1.9	-5.4	1.3	0.308
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	89.9	93.1	-3.2	-7.5	1.2	-6.8	0.5	0.152
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	71.8	72.8	-1.0	-12.3	10.3	-10.4	8.4	0.864
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	57.8	61.5	-3.7	-12.2	4.9	-10.8	3.5	0.396
	Rating of all care received after leaving the hospital	9-10	62.1	67.9	-5.8	-14.0	2.5	-12.7	1.1	0.338
		7-8	22.0	20.1	1.9	-4.9	8.8	-3.8	7.7	
0-6	15.9	12.0	3.8	-2.3	10.0	-1.3	9.0			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.13: Beneficiary Survey Outcomes for PGPs, Cardiac Care CESLG, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	61.5	57.7	3.7	-2.5	9.9	-1.5	8.9	0.168
		Maintained	17.2	21.4	-4.2	-8.7	0.4	-8.0	-0.4	
		Declined	21.3	20.9	0.5	-5.8	6.8	-4.8	5.7	
	Planning regular tasks	Improvement	65.5	62.6	2.9	-3.2	8.9	-2.2	7.9	0.057
		Maintained	12.2	17.8	-5.5	-10.1	-1.0	-9.3	-1.7	
		Declined	22.3	19.6	2.7	-3.3	8.7	-2.4	7.7	
	Use of mobility device	Improvement	37.9	39.7	-1.7	-7.1	3.6	-6.2	2.8	0.786
		Maintained	14.5	14.7	-0.2	-4.8	4.4	-4.0	3.6	
		Declined	47.5	45.6	1.9	-4.0	7.9	-3.1	6.9	
	Walking without rest	Improvement	27.4	33.3	-5.9	-12.2	0.5	-11.2	-0.5	0.196
		Maintained	31.2	28.3	2.9	-3.2	9.1	-2.2	8.1	
		Declined	41.3	38.4	2.9	-3.7	9.5	-2.6	8.4	
	Going up or down stairs	Improvement	26.7	34.0	-7.3	-13.8	-0.9	-12.7	-1.9	0.071
		Maintained	29.1	24.4	4.7	-1.7	11.0	-0.7	10.0	
		Declined	44.3	41.6	2.7	-4.3	9.6	-3.1	8.5	
	Physical/emotional problems limiting social activities	Improvement	44.8	44.5	0.4	-6.9	7.7	-5.7	6.5	0.515
		Maintained	25.4	28.8	-3.4	-9.9	3.1	-8.9	2.1	
		Declined	29.8	26.8	3.0	-3.6	9.7	-2.6	8.6	
	Pain limiting regular activities	Improvement	40.9	40.2	0.7	-6.5	7.8	-5.3	6.7	0.726
		Maintained	34.7	32.8	1.9	-4.4	8.3	-3.4	7.2	
		Declined	24.4	27.0	-2.6	-9.5	4.3	-8.4	3.2	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.9	92.3	-1.4	-5.4	2.7	-4.8	2.0	0.512
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	86.5	88.2	-1.7	-7.3	4.0	-6.4	3.0	0.559
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	89.9	92.3	-2.5	-7.0	2.0	-6.2	1.3	0.282
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	87.6	91.2	-3.6	-8.6	1.4	-7.8	0.6	0.161
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	90.3	93.3	-3.0	-7.1	1.2	-6.4	0.5	0.159
	Able to manage your health needs since returning home	Strongly Agree or Agree	92.4	92.7	-0.3	-5.0	4.3	-4.2	3.6	0.890
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	83.4	85.0	-1.6	-8.4	5.2	-7.3	4.1	0.642
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	69.9	71.8	-1.9	-10.2	6.5	-8.9	5.1	0.659
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	56.7	58.6	-2.0	-9.2	5.3	-8.1	4.1	0.596
	Rating of all care received after leaving the hospital	9-10	56.5	59.5	-3.0	-10.7	4.6	-9.4	3.4	0.635
		7-8	23.4	20.5	2.9	-3.3	9.2	-2.3	8.2	
0-6	20.2	20.1	0.1	-6.1	6.2	-5.0	5.2			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.14: Beneficiary Survey Outcomes for PGPs, Medical and Critical Care CESLG, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	59.1	61.4	-2.3	-6.9	2.3	-6.2	1.6	0.032
		Maintained	18.6	13.9	4.7	1.2	8.3	1.8	7.7	
		Declined	22.2	24.7	-2.5	-6.8	1.9	-6.1	1.2	
	Planning regular tasks	Improvement	57.5	57.6	-0.1	-4.5	4.3	-3.8	3.6	0.999
		Maintained	13.6	13.6	0.0	-3.2	3.3	-2.7	2.8	
		Declined	28.9	28.8	0.1	-4.5	4.6	-3.8	3.9	
	Use of mobility device	Improvement	37.9	38.6	-0.7	-5.0	3.6	-4.3	2.9	0.292
		Maintained	13.0	15.2	-2.2	-5.5	1.1	-5.0	0.6	
		Declined	49.1	46.2	2.9	-1.4	7.3	-0.7	6.6	
	Walking without rest	Improvement	29.5	30.7	-1.2	-5.6	3.1	-4.8	2.4	0.856
		Maintained	27.1	26.3	0.8	-3.5	5.1	-2.8	4.4	
		Declined	43.4	43.0	0.4	-3.7	4.6	-3.0	3.9	
	Going up or down stairs	Improvement	31.0	31.1	-0.2	-4.5	4.2	-3.8	3.5	0.671
		Maintained	25.2	23.4	1.8	-2.6	6.1	-1.9	5.4	
		Declined	43.9	45.5	-1.6	-5.9	2.7	-5.2	2.0	
	Physical/emotional problems limiting social activities	Improvement	44.7	45.8	-1.2	-6.2	3.8	-5.4	3.0	0.681
		Maintained	24.6	22.5	2.1	-2.6	6.8	-1.9	6.0	
		Declined	30.7	31.6	-0.9	-6.1	4.3	-5.3	3.5	
	Pain limiting regular activities	Improvement	43.4	41.4	2.0	-3.4	7.5	-2.5	6.6	0.505
		Maintained	30.5	33.8	-3.3	-8.8	2.2	-7.9	1.3	
		Declined	26.1	24.8	1.3	-3.4	5.9	-2.6	5.1	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	89.9	88.7	1.2	-2.4	4.9	-1.8	4.3	0.504
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	86.9	85.6	1.3	-3.0	5.5	-2.3	4.8	0.557
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	89.7	88.8	1.0	-2.6	4.5	-2.0	3.9	0.589
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	88.0	86.7	1.3	-2.9	5.5	-2.2	4.8	0.542
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	89.3	87.8	1.5	-2.4	5.4	-1.7	4.8	0.447
	Able to manage your health needs since returning home	Strongly Agree or Agree	93.3	91.7	1.6	-1.4	4.5	-0.9	4.0	0.302
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.2	84.8	0.5	-4.0	4.9	-3.3	4.2	0.842
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	75.1	68.8	6.3	-0.2	12.8	0.8	11.7	0.059
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	59.5	54.9	4.7	-0.2	9.6	0.6	8.8	0.062
	Rating of all care received after leaving the hospital	9-10	54.6	52.3	2.4	-3.3	8.0	-2.4	7.1	0.228
		7-8	24.9	29.2	-4.3	-9.3	0.7	-8.5	-0.1	
0-6	20.5	18.6	1.9	-2.5	6.3	-1.7	5.6			

Note: See the first page of this appendix for data sources and more information.

Exhibit I.15: Beneficiary Survey Outcomes for PGPs, Orthopedics CESLG, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	73.6	75.5	-1.9	-6.9	3.1	-6.1	2.3	0.753
		Maintained	8.0	7.6	0.4	-2.9	3.6	-2.3	3.1	
		Declined	18.4	16.9	1.5	-3.2	6.3	-2.4	5.5	
	Planning regular tasks	Improvement	80.4	79.5	0.9	-3.7	5.4	-2.9	4.6	0.167
		Maintained	6.6	9.2	-2.5	-5.4	0.4	-5.0	-0.1	
		Declined	13.0	11.3	1.7	-2.0	5.3	-1.4	4.7	
	Use of mobility device	Improvement	52.2	49.4	2.8	-3.4	9.0	-2.4	8.0	0.662
		Maintained	10.0	11.1	-1.1	-5.7	3.4	-4.9	2.7	
		Declined	37.8	39.5	-1.7	-7.9	4.5	-6.9	3.5	
	Walking without rest	Improvement	51.8	50.3	1.5	-5.1	8.2	-4.0	7.1	0.900
		Maintained	14.9	16.0	-1.0	-6.9	4.9	-6.0	3.9	
		Declined	33.2	33.7	-0.5	-5.6	4.6	-4.7	3.7	
	Going up or down stairs	Improvement	47.3	48.5	-1.2	-7.9	5.6	-6.8	4.5	0.213
		Maintained	21.7	25.4	-3.7	-10.0	2.7	-9.0	1.6	
		Declined	30.9	26.1	4.9	-0.8	10.5	0.1	9.6	
	Physical/emotional problems limiting social activities	Improvement	61.8	65.9	-4.1	-10.8	2.6	-9.7	1.5	0.451
		Maintained	17.4	16.3	1.0	-4.5	6.6	-3.6	5.7	
		Declined	20.9	17.8	3.1	-2.8	9.0	-1.8	8.0	
	Pain limiting regular activities	Improvement	68.4	59.6	8.8	3.1	14.5	4.0	13.6	0.010
		Maintained	14.0	20.2	-6.3	-11.7	-0.8	-10.8	-1.7	
		Declined	17.6	20.2	-2.5	-7.2	2.1	-6.4	1.4	

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	86.6	95.2	-8.6	-12.9	-4.4	-12.2	-5.0	0.000
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	91.6	93.5	-1.9	-6.0	2.2	-5.3	1.5	0.365
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	91.8	95.0	-3.3	-7.1	0.6	-6.5	0.0	0.097
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	91.0	93.6	-2.6	-6.7	1.5	-6.0	0.8	0.213
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	92.0	94.8	-2.8	-6.5	1.0	-5.9	0.4	0.151
	Able to manage your health needs since returning home	Strongly Agree or Agree	94.2	96.0	-1.8	-5.3	1.6	-4.7	1.1	0.295
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	95.5	94.4	1.1	-2.3	4.5	-1.7	4.0	0.517
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	81.6	72.7	8.9	-0.1	17.9	1.4	16.5	0.052
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	68.4	74.0	-5.7	-12.0	0.7	-11.0	-0.3	0.082
	Rating of all care received after leaving the hospital	9-10	71.3	67.9	3.4	-3.4	10.1	-2.3	9.0	0.615
		7-8	18.7	21.3	-2.5	-8.5	3.5	-7.5	2.5	
0-6	10.0	10.8	-0.8	-5.6	3.9	-4.8	3.1			

Note: See the first page of this appendix for data sources and more information.

Appendix J: Supplemental Medicare Program Savings Results

The following tables display Medicare program savings results assessed in this report. The estimate of the reduction in non-standardized payments is based on a risk-adjusted difference-in-differences (DiD) model of standardized Medicare paid amounts during the episode, which are Medicare Part A and B payments excluding beneficiary cost sharing. Net savings to Medicare is the estimated reduction in non-standardized payments minus reconciliation payments paid to or received from participants. Net savings and reductions in non-standardized payments are reported such that a positive value indicates savings to Medicare and a negative value indicates losses to Medicare. Lower and upper bounds are calculated from the 90% and 95% confidence intervals of the DiD estimate. Results expressed as a percentage are calculated as a percentage of the BPCI Advanced counterfactual, which is an estimate of what payments would have been absent the BPCI Advanced Model. The BPCI Advanced counterfactual is calculated as the average BPCI Advanced non-standardized payments in the baseline plus the change in the average non-standardized payments for the comparison group from baseline to intervention. The sample size reported in the exhibits represents the number of episodes used to estimate the reduction in non-standardized payments. The sample size as a percentage represents the share of episodes for the given result out of the total number of episodes across the clinical episodes evaluated. The share of episodes may not add up to 100% due to the use of different weights to resolve overlap among episodes in different clinical episodes. Results are based on clinical episodes with sufficient sample size for evaluation. Results reflect the BPCI Advanced evaluation team's analysis of Medicare claims and enrollment data for episodes with anchor stays or procedures beginning April 1, 2013 and ending on or before December 31, 2017 (baseline period) and episodes with anchor stays or procedures beginning January 1, 2020 and ending on or before December 31, 2020 (Model Year 3) for BPCI Advanced episode initiators and matched comparison providers.

Please refer to the following abbreviations, which are used throughout this appendix:

- AMI = acute myocardial infarction
- CHF = congestive heart failure
- CI = confidence interval
- COPD = chronic obstructive pulmonary disease
- GI = gastrointestinal
- Hip & Femur = hip and femur procedures except major joint
- LCI = lower confidence interval
- MJRLE = major joint replacement of the lower extremity
- MJRUE = major joint replacement of the upper extremity
- PCI = percutaneous coronary intervention
- SPRI = simple pneumonia and respiratory infections
- UCI = upper confidence interval
- UTI = urinary tract infection

Exhibit J.1: Net Medicare Savings, BPCI Advanced Hospitals and PGPs, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI	Savings as a Percentage
All Clinical Episodes (n=501,768)	\$514.06 M	\$627.80 M	-\$113.74 M	-\$207.36 M	-\$20.12 M	-\$225.31 M	-\$2.17 M	-0.8%
Medical (n=79%)	\$305.13 M	\$505.61 M	-\$200.49 M	-\$272.76 M	-\$128.22 M	-\$286.61 M	-\$114.36 M	-1.9%
Hospitals (n=56%)	\$197.85 M	\$364.45 M	-\$166.60 M	-\$222.05 M	-\$111.15 M	-\$232.68 M	-\$100.52 M	-2.2%
PGPs (n=23%)	\$80.75 M	\$141.17 M	-\$60.41 M	-\$103.37 M	-\$17.46 M	-\$111.61 M	-\$9.21 M	-2.0%
Surgical (n=21%)	\$193.51 M	\$122.19 M	\$71.32 M	\$31.38 M	\$111.26 M	\$23.72 M	\$118.92 M	2.3%
Hospitals (n=6%)	\$29.89 M	\$23.63 M	\$6.25 M	-\$14.05 M	\$26.56 M	-\$17.95 M	\$30.46 M	0.7%
PGPs (n=15%)	\$157.11 M	\$98.55 M	\$58.56 M	\$26.66 M	\$90.46 M	\$20.54 M	\$96.59 M	2.8%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.2: Net Medicare Savings, Expressed as a Percentage of the BPCI Advanced Counterfactual, BPCI Advanced Hospitals and PGPs, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI
All Clinical Episodes (n=501,768)	3.8%	4.6%	-0.8%	-1.5%	-0.1%	-1.7%	0.0%
Medical (n=79%)	2.9%	4.8%	-1.9%	-2.6%	-1.2%	-2.7%	-1.1%
Hospitals (n=56%)	2.6%	4.8%	-2.2%	-2.9%	-1.5%	-3.1%	-1.3%
PGPs (n=23%)	2.7%	4.8%	-2.0%	-3.5%	-0.6%	-3.8%	-0.3%
Surgical (n=21%)	6.3%	4.0%	2.3%	1.0%	3.6%	0.8%	3.9%
Hospitals (n=6%)	3.2%	2.5%	0.7%	-1.5%	2.9%	-1.9%	3.3%
PGPs (n=15%)	7.6%	4.8%	2.8%	1.3%	4.4%	1.0%	4.7%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.3: Net Medicare Savings by Clinical Episode, Medical Clinical Episodes, BPCI Advanced Hospitals, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI	Savings as a Percentage
AMI (n=2%)	\$9.29 M	\$20.51 M	-\$11.22 M	-\$17.63 M	-\$4.80 M	-\$18.87 M	-\$3.56 M	-3.7%
Cardiac Arrhythmia (n=3%)	\$8.37 M	\$15.76 M	-\$7.39 M	-\$13.48 M	-\$1.31 M	-\$14.64 M	-\$0.14 M	-2.5%
COPD, Bronchitis, & Asthma (n=3%)	\$1.80 M	\$17.88 M	-\$16.08 M	-\$22.26 M	-\$9.91 M	-\$23.44 M	-\$8.72 M	-5.2%
CHF (n=5%)	\$14.23 M	\$21.08 M	-\$6.85 M	-\$16.71 M	\$3.01 M	-\$18.61 M	\$4.91 M	-1.1%
GI Hemorrhage (n=2%)	\$5.82 M	\$11.50 M	-\$5.68 M	-\$10.55 M	-\$0.81 M	-\$11.49 M	\$0.13 M	-2.4%
Renal Failure (n=3%)	\$7.64 M	\$22.77 M	-\$15.13 M	-\$22.40 M	-\$7.87 M	-\$23.79 M	-\$6.47 M	-3.6%
Sepsis (n=22%)	\$76.23 M	\$175.63 M	-\$99.40 M	-\$137.05 M	-\$61.74 M	-\$144.27 M	-\$54.52 M	-2.7%
SPRI (n=10%)	\$31.43 M	\$29.11 M	\$2.32 M	-\$14.79 M	\$19.43 M	-\$18.08 M	\$22.72 M	0.2%
Stroke (n=4%)	\$24.86 M	\$36.89 M	-\$12.03 M	-\$22.72 M	-\$1.34 M	-\$24.78 M	\$0.72 M	-2.1%
UTI (n=2%)	\$13.55 M	\$13.31 M	\$0.24 M	-\$5.38 M	\$5.87 M	-\$6.46 M	\$6.95 M	0.1%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.4: Net Medicare Savings by Clinical Episode, Expressed as a Percentage of the BPCI Advanced Counterfactual, Medical Clinical Episodes, BPCI Advanced Hospitals, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI
AMI (n=2%)	3.1%	6.8%	-3.7%	-5.9%	-1.6%	-6.3%	-1.2%
Cardiac Arrhythmia (n=3%)	2.8%	5.3%	-2.5%	-4.5%	-0.4%	-4.9%	0.0%
COPD, Bronchitis, & Asthma (n=3%)	0.6%	5.7%	-5.2%	-7.1%	-3.2%	-7.5%	-2.8%
CHF (n=5%)	2.3%	3.4%	-1.1%	-2.7%	0.5%	-3.0%	0.8%
GI Hemorrhage (n=2%)	2.5%	4.9%	-2.4%	-4.5%	-0.3%	-4.9%	0.1%
Renal Failure (n=3%)	1.8%	5.4%	-3.6%	-5.3%	-1.9%	-5.7%	-1.5%
Sepsis (n=22%)	2.1%	4.8%	-2.7%	-3.7%	-1.7%	-3.9%	-1.5%
SPRI (n=10%)	2.6%	2.4%	0.2%	-1.2%	1.6%	-1.5%	1.9%
Stroke (n=4%)	4.3%	6.4%	-2.1%	-3.9%	-0.2%	-4.3%	0.1%
UTI (n=2%)	4.5%	4.4%	0.1%	-1.8%	1.9%	-2.1%	2.3%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.5: Net Medicare Savings by Clinical Episode, Surgical Clinical Episodes, BPCI Advanced Hospitals, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI	Savings as a Percentage
CABG (n=<1%)	\$3.75 M	\$5.55 M	-\$1.80 M	-\$5.56 M	\$1.96 M	-\$6.29 M	\$2.69 M	-1.3%
Fractures of the Femur and Hip or Pelvis (n=<1%)	\$0.43 M	\$1.91 M	-\$1.48 M	-\$3.50 M	\$0.54 M	-\$3.89 M	\$0.94 M	-5.0%
Hip & Femur Procedures (n=1%)	\$9.48 M	\$6.74 M	\$2.74 M	-\$3.36 M	\$8.84 M	-\$4.54 M	\$10.02 M	1.1%
MJRLE (n=2%)	\$7.93 M	\$4.37 M	\$3.55 M	-\$4.97 M	\$12.07 M	-\$6.62 M	\$13.73 M	1.6%
Pacemaker (n=<1%)	\$2.85 M	\$2.82 M	\$0.03 M	-\$1.97 M	\$2.02 M	-\$2.36 M	\$2.41 M	0.0%
PCI (n=<1%)	\$1.08 M	\$0.56 M	\$0.53 M	-\$2.39 M	\$3.44 M	-\$2.96 M	\$4.01 M	0.5%
PCI (OP) (n=2%)	\$1.02 M	\$1.69 M	-\$0.67 M	-\$4.46 M	\$3.12 M	-\$5.19 M	\$3.86 M	-0.5%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.6: Net Medicare Savings by Clinical Episode, Expressed as a Percentage of the BPCI Advanced Counterfactual, Surgical Clinical Episodes, BPCI Advanced Hospitals, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI
CABG (n=<1%)	2.7%	4.0%	-1.3%	-4.0%	1.4%	-4.5%	1.9%
Fractures of the Femur and Hip or Pelvis (n=<1%)	1.5%	6.4%	-5.0%	-11.7%	1.8%	-13.1%	3.2%
Hip & Femur Procedures (n=1%)	3.8%	2.7%	1.1%	-1.3%	3.5%	-1.8%	4.0%
MJRLE (n=2%)	3.5%	1.9%	1.6%	-2.2%	5.3%	-2.9%	6.0%
Pacemaker (n=<1%)	4.5%	4.5%	0.0%	-3.1%	3.2%	-3.8%	3.9%
PCI (n=<1%)	1.1%	0.5%	0.5%	-2.4%	3.4%	-2.9%	4.0%
PCI (OP) (n=2%)	0.8%	1.3%	-0.5%	-3.5%	2.4%	-4.1%	3.0%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.7: Net Medicare Savings by Clinical Episode, Medical Clinical Episodes, BPCI Advanced PGPs, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI	Savings as a Percentage
AMI (n=1%)	\$2.71 M	\$10.54 M	-\$7.82 M	-\$12.72 M	-\$2.92 M	-\$13.68 M	-\$1.97 M	-5.4%
Cardiac Arrhythmia (n=1%)	-\$0.87 M	\$5.71 M	-\$6.58 M	-\$10.47 M	-\$2.69 M	-\$11.22 M	-\$1.93 M	-5.6%
Cellulitis (n=<1%)	\$1.27 M	\$1.83 M	-\$0.56 M	-\$2.97 M	\$1.85 M	-\$3.44 M	\$2.32 M	-1.0%
COPD (n=1%)	\$1.92 M	\$4.79 M	-\$2.86 M	-\$5.64 M	-\$0.09 M	-\$6.18 M	\$0.45 M	-2.7%
CHF (n=2%)	\$6.72 M	\$18.65 M	-\$11.93 M	-\$17.83 M	-\$6.02 M	-\$18.98 M	-\$4.87 M	-3.9%
GI Hemorrhage (n=1%)	\$1.75 M	\$7.51 M	-\$5.76 M	-\$9.24 M	-\$2.28 M	-\$9.92 M	-\$1.60 M	-4.3%
GI Obstruction (n=<1%)	\$1.72 M	\$2.19 M	-\$0.47 M	-\$2.71 M	\$1.77 M	-\$3.15 M	\$2.21 M	-1.0%
Renal Failure (n=2%)	\$9.62 M	\$13.78 M	-\$4.16 M	-\$10.47 M	\$2.15 M	-\$11.70 M	\$3.37 M	-2.1%
Sepsis (n=7%)	\$21.72 M	\$42.96 M	-\$21.24 M	-\$41.30 M	-\$1.18 M	-\$45.18 M	\$2.70 M	-1.9%
SPRI (n=4%)	\$13.20 M	\$11.95 M	\$1.25 M	-\$11.68 M	\$14.19 M	-\$14.19 M	\$16.69 M	0.2%
Stroke (n=1%)	\$2.85 M	\$12.73 M	-\$9.88 M	-\$16.63 M	-\$3.12 M	-\$17.95 M	-\$1.80 M	-4.5%
UTI (n=1%)	\$5.24 M	\$8.54 M	-\$3.29 M	-\$6.50 M	-\$0.08 M	-\$7.13 M	\$0.54 M	-2.6%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.8: Net Medicare Savings by Clinical Episode, Expressed as a Percentage of the BPCI Advanced Counterfactual, Medical Clinical Episodes, BPCI Advanced PGPs, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI
AMI (n=1%)	1.9%	7.3%	-5.4%	-8.8%	-2.0%	-9.5%	-1.4%
Cardiac Arrhythmia (n=1%)	-0.7%	4.8%	-5.6%	-8.9%	-2.3%	-9.5%	-1.6%
Cellulitis (n=<1%)	2.3%	3.3%	-1.0%	-5.3%	3.3%	-6.1%	4.1%
COPD (n=1%)	1.8%	4.5%	-2.7%	-5.3%	-0.1%	-5.8%	0.4%
CHF (n=2%)	2.2%	6.1%	-3.9%	-5.9%	-2.0%	-6.3%	-1.6%
GI Hemorrhage (n=1%)	1.3%	5.5%	-4.3%	-6.8%	-1.7%	-7.3%	-1.2%
GI Obstruction (n=<1%)	3.7%	4.7%	-1.0%	-5.8%	3.8%	-6.8%	4.8%
Renal Failure (n=2%)	4.8%	6.8%	-2.1%	-5.2%	1.1%	-5.8%	1.7%
Sepsis (n=7%)	2.0%	3.9%	-1.9%	-3.8%	-0.1%	-4.1%	0.2%
SPRI (n=4%)	2.4%	2.2%	0.2%	-2.1%	2.6%	-2.6%	3.0%
Stroke (n=1%)	1.3%	5.8%	-4.5%	-7.6%	-1.4%	-8.2%	-0.8%
UTI (n=1%)	4.1%	6.7%	-2.6%	-5.1%	-0.1%	-5.6%	0.4%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.9: Net Medicare Savings by Clinical Episode, Surgical Clinical Episodes, BPCI Advanced PGPs, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI	Savings as a Percentage
Hip & Femur Procedures (n=2%)	\$30.13 M	\$26.20 M	\$3.93 M	-\$6.02 M	\$13.89 M	-\$7.95 M	\$15.81 M	0.9%
MJRLE (n=9%)	\$97.86 M	\$38.24 M	\$59.62 M	\$41.50 M	\$77.75 M	\$38.01 M	\$81.24 M	5.6%
MJRUE (n=1%)	\$4.61 M	\$5.40 M	-\$0.79 M	-\$4.38 M	\$2.79 M	-\$5.08 M	\$3.49 M	-0.6%
PCI (n=<1%)	\$0.64 M	\$2.45 M	-\$1.81 M	-\$4.17 M	\$0.56 M	-\$4.64 M	\$1.02 M	-2.9%
Spinal Fusion (n=2%)	\$21.42 M	\$26.26 M	-\$4.84 M	-\$16.30 M	\$6.62 M	-\$18.52 M	\$8.84 M	-1.4%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.10: Net Medicare Savings by Clinical Episode, Expressed as a Percentage of the BPCI Advanced Counterfactual, Surgical Clinical Episodes, BPCI Advanced PGPs, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episodes	Reduction in Non-standardized Payments	Reconciliation Payments	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI
Hip & Femur Procedures (n=2%)	6.9%	6.0%	0.9%	-1.4%	3.2%	-1.8%	3.6%
MJRLE (n=9%)	9.2%	3.6%	5.6%	3.9%	7.3%	3.6%	7.7%
MJRUE (n=1%)	3.2%	3.8%	-0.6%	-3.0%	1.9%	-3.5%	2.4%
PCI (n=<1%)	1.0%	4.0%	-2.9%	-6.7%	0.9%	-7.5%	1.7%
Spinal Fusion (n=2%)	6.1%	7.5%	-1.4%	-4.6%	1.9%	-5.3%	2.5%

Note: See the first page of this appendix for data sources and more information.

Exhibit J.11: Net Medicare Savings, BPCI Advanced Hospitals and PGPs, Model Years 1-2 and Model Year 3, October 1, 2018 – December 31, 2020

Clinical Episodes	Model Years 1 and 2					Model Year 3				
	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI	Savings to Medicare	90% LCI	90% UCI	95% LCI	95% UCI
All Clinical Episodes	-\$65.75 M	-\$152.00 M	\$20.50 M	-\$168.52 M	\$37.02 M	-\$113.74 M	-\$207.36 M	-\$20.12 M	-\$225.31 M	-\$2.17 M
Medical	-\$275.02 M	-\$342.92 M	-\$207.11 M	-\$355.93 M	-\$194.10 M	-\$200.49 M	-\$272.76 M	-\$128.22 M	-\$286.61 M	-\$114.36 M
Hospitals	-\$241.93 M	-\$291.62 M	-\$192.24 M	-\$301.14 M	-\$182.72 M	-\$166.60 M	-\$222.05 M	-\$111.15 M	-\$232.68 M	-\$100.52 M
PGPs	-\$48.34 M	-\$93.88 M	-\$2.81 M	-\$102.60 M	\$5.92 M	-\$60.41 M	-\$103.37 M	-\$17.46 M	-\$111.61 M	-\$9.21 M
Surgical	\$204.40 M	\$153.90 M	\$254.89 M	\$144.23 M	\$264.56 M	\$71.32 M	\$31.38 M	\$111.26 M	\$23.72 M	\$118.92 M
Hospitals	\$41.48 M	\$29.35 M	\$53.60 M	\$27.03 M	\$55.92 M	\$6.25 M	-\$14.05 M	\$26.56 M	-\$17.95 M	\$30.46 M
PGPs	\$157.10 M	\$109.18 M	\$205.03 M	\$100.00 M	\$214.21 M	\$58.56 M	\$26.66 M	\$90.46 M	\$20.54 M	\$96.59 M

Note: See the first page of this appendix for data sources and more information.

Appendix K: Tables of Differences in Payment and Quality Measures for Beneficiaries from Populations That Have Been Historically Underserved

The following tables display the relative differences and the differential change for allowed payments, readmission rates, and mortality rates assessed in this report for populations that have been historically underserved. Medicare payments were standardized to remove the effects of geographic differences in wages, extra amounts to account for teaching programs and other policy factors. Total allowed payments are Medicare Parts A and B payments that include beneficiary cost sharing, while total paid payments exclude beneficiary cost sharing. Results are presented for episodes pooled across the clinical episodes evaluated, for medical clinical episodes, and for surgical clinical episodes. Tables K.13 and K.14 display the COVID-19 rates among populations that have been historically underserved by medical and surgical clinical episodes. The share of episodes with a confirmed COVID-19 diagnosis refers to a confirmed COVID-19 diagnosis during the episode, which includes the inpatient stay or day of the outpatient procedure and the 90 days after. Confirmed COVID-19 diagnoses are identified in claims data using the International Classification of Diseases Version 10 codes B97.29 from January 27, 2020 onward or U07.1 from April 1, 2020 onward. The sample includes episodes used to evaluate the impact of the model on mortality during the anchor stay or procedure through the 90-day post-discharge period (PDP). See **Appendix C** for information on the COVID-19 outcomes.

All results are based on the BPCI Advanced evaluation team’s analysis of Medicare claims and enrollment data for episodes with anchor stays/procedures beginning April 1, 2013 and ending on or before December 31, 2017 (baseline period) and episodes with anchor stays/procedures beginning January 1, 2020 and ending on or before December 31, 2020 (Model Year 3 intervention period) or episodes with anchor stays/procedures beginning October 1, 2018 and ending on or before December 31, 2019 (Model Years 1 & 2 intervention period) for BPCI Advanced episode initiators and matched comparison providers.

The double dagger (‡) denotes results where we reject the null hypothesis that BPCI Advanced and matched comparison providers had parallel trends in the baseline period for this outcome at the 10% level of significance.

Please refer to the following abbreviations, which are used throughout this appendix:

- DiD = Difference-in-Differences
- LCI = lower confidence interval
- MY1&2 = Model Years 1 and 2
- MY3 = Model Year 3
- PGP = physician group practice
- UCI = upper confidence interval

Exhibit K.1: Relative Change in Total Allowed Payments Associated with the BPCI Advanced Model, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean						
Medical	Black or African American	35,214	\$26,480	\$26,979	32,114	\$25,946	\$27,489	-\$1,044 ‡	-\$1,452	-\$635	-\$1,531	-\$557	<0.001
	Non-Hispanic White	251,685	\$25,914	\$25,797	240,662	\$25,552	\$26,220	-\$785 ‡	-\$961	-\$609	-\$995	-\$576	<0.001
Surgical	Black or African American	3,335	\$32,013	\$28,856	2,760	\$31,474	\$30,611	-\$2,295	-\$3,189	-\$1,401	-\$3,361	-\$1,229	<0.001
	Non-Hispanic White	69,784	\$31,052	\$28,110	57,850	\$30,668	\$29,493	-\$1,768	-\$2,123	-\$1,413	-\$2,191	-\$1,345	<0.001

Note: See the first page of this appendix for data sources and more information.

Exhibit K.2: Differential Impact of BPCI Advanced on Total Allowed Payments, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Black or African American Relative Change (DiD)	Non-Hispanic White Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	-\$1,044 ‡	-\$785 ‡	-\$259	-\$654	\$137	-\$730	\$213	0.283
Surgical	-\$2,295	-\$1,768	-\$527	-\$1,390	\$335	-\$1,555	\$501	0.315

Note: See the first page of this appendix for data sources and more information.

Exhibit K.3: Relative Change in Unplanned Readmissions Through the 90-day PDP Associated with the BPCI Advanced Model, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean						
Medical	Black or African American	34,738	33.3%	30.5%	31,693	32.9%	30.5%	-0.41 pp ‡	-1.11 pp	0.29 pp	-1.24 pp	0.43 pp	0.339
	Non-Hispanic White	249,369	31.4%	28.8%	238,658	31.3%	29.0%	-0.28 pp ‡	-0.55 pp	-0.01 pp	-0.61 pp	0.05 pp	0.093
Surgical	Black or African American	3,332	15.5%	13.0%	2,754	14.9%	13.4%	-1.05 pp	-2.44 pp	0.35 pp	-2.71 pp	0.62 pp	0.218
	Non-Hispanic White	69,730	14.6%	12.9%	57,796	14.4%	13.0%	-0.28 pp	-0.81 pp	0.24 pp	-0.91 pp	0.34 pp	0.375

Note: See the first page of this appendix for data sources and more information.

Exhibit K.4: Differential Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Black or African American Relative Change (DiD)	Non-Hispanic White Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	-0.41 pp ‡	-0.28 pp ‡	-0.13 pp	-0.85 pp	0.60 pp	-0.99 pp	0.74 pp	0.772
Surgical	-1.05 pp	-0.28 pp	-0.76 pp	-2.19 pp	0.66 pp	-2.46 pp	0.94 pp	0.378

Note: See the first page of this appendix for data sources and more information.

Exhibit K.5: Relative Change in Mortality During the Anchor Stay Through the 90-day PDP Associated with the BPCI Advanced Model, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean						
Medical	Black or African American	37,441	19.1%	19.5%	34,074	19.1%	19.3%	0.28 pp	-0.31 pp	0.86 pp	-0.42 pp	0.97 pp	0.438
	Non-Hispanic White	265,189	20.7%	19.9%	254,260	20.2%	19.8%	-0.40 pp	-0.71 pp	-0.09 pp	-0.77 pp	-0.03 pp	0.033
Surgical	Black or African American	3,329	3.8%	3.8%	2,760	3.4%	3.7%	-0.27 pp	-1.09 pp	0.55 pp	-1.25 pp	0.70 pp	0.623
	Non-Hispanic White	69,620	4.1%	4.1%	57,710	4.0%	3.9%	0.06 pp	-0.12 pp	0.25 pp	-0.15 pp	0.28 pp	0.568

Note: See the first page of this appendix for data sources and more information.

Exhibit K.6: Differential Impact of BPCI Advanced on Mortality During the Anchor Stay Through the 90-day PDP, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Black or African American Relative Change (DiD)	Non-Hispanic White Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	0.28 pp	-0.40 pp	0.67 pp	0.11 pp	1.24 pp	-0.00 pp	1.35 pp	0.050
Surgical	-0.27 pp	0.06 pp	-0.34 pp	-1.17 pp	0.50 pp	-1.33 pp	0.66 pp	0.509

Note: See the first page of this appendix for data sources and more information.

Exhibit K.7: Relative Change in Total Allowed Payments Associated with the BPCI Advanced Model, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean						
Medical	Dual Eligible	83,984	\$26,378	\$27,769	78,240	\$26,275	\$28,790	-\$1,125 ‡	-\$1,427	-\$823	-\$1,485	-\$765	<0.001
	Nondual Eligible	234,759	\$25,820	\$25,340	224,803	\$25,412	\$25,631	-\$698 ‡	-\$868	-\$529	-\$901	-\$496	<0.001
Surgical	Dual Eligible	7,911	\$32,103	\$29,930	7,124	\$31,720	\$31,522	-\$1,976 ‡	-\$2,600	-\$1,352	-\$2,720	-\$1,232	<0.001
	Nondual Eligible	70,971	\$30,893	\$27,893	58,320	\$30,488	\$29,263	-\$1,775	-\$2,128	-\$1,423	-\$2,195	-\$1,356	<0.001

Note: See the first page of this appendix for data sources and more information.

Exhibit K.8: Differential Impact of BPCI Advanced on Total Allowed Payments, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Dual Eligible Relative Change (DiD)	Nondual Eligible Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	-\$1,125 ‡	-\$698 ‡	-\$426	-\$717	-\$136	-\$773	-\$80	0.016
Surgical	-\$1,976 ‡	-\$1,775	-\$201	-\$776	\$375	-\$887	\$486	0.567

Note: See the first page of this appendix for data sources and more information.

Exhibit K.9: Relative Change in Unplanned Readmissions Through the 90-day PDP Associated with the BPCI Advanced Model, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean						
Medical	Dual Eligible	82,571	31.8%	29.6%	77,027	31.9%	29.6%	0.10 pp ‡	-0.33 pp	0.53 pp	-0.42 pp	0.62 pp	0.702
	Nondual Eligible	232,940	31.5%	28.9%	223,248	31.3%	29.1%	-0.36 pp ‡	-0.65 pp	-0.08 pp	-0.70 pp	-0.02 pp	0.037
Surgical	Dual Eligible	7,891	15.4%	13.7%	7,098	15.1%	13.6%	-0.35 pp	-1.22 pp	0.53 pp	-1.39 pp	0.70 pp	0.514
	Nondual Eligible	70,929	14.5%	12.8%	58,285	14.3%	12.9%	-0.23 pp	-0.77 pp	0.31 pp	-0.87 pp	0.42 pp	0.492

Note: See the first page of this appendix for data sources and more information.

Exhibit K.10: Differential Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Dual Eligible Relative Change (DiD)	Nondual Eligible Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	0.10 pp ‡	-0.36 pp ‡	0.46 pp	-0.02 pp	0.94 pp	-0.11 pp	1.03 pp	0.112
Surgical	-0.35 pp	-0.23 pp	-0.12 pp	-1.10 pp	0.85 pp	-1.29 pp	1.04 pp	0.837

Note: See the first page of this appendix for data sources and more information.

Exhibit K.11: Relative Change in Mortality During the Anchor Stay Through the 90-day PDP Associated with the BPCI Advanced Model, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-value
		MY3 Episodes (N)	Baseline Mean	MY3 Mean	MY3 Episodes (N)	Baseline Mean	MY3 Mean						
Medical	Dual Eligible	88,532	20.7%	21.5%	82,775	20.4%	21.0%	0.16 pp	-0.30 pp	0.63 pp	-0.39 pp	0.72 pp	0.560
	Nondual Eligible	248,225	20.2%	19.2%	238,401	19.8%	19.2%	-0.42 pp	-0.72 pp	-0.11 pp	-0.78 pp	-0.05 pp	0.027
Surgical	Dual Eligible	7,851	4.4%	4.8%	7,064	4.5%	4.5%	0.41 pp ‡	-0.04 pp	0.86 pp	-0.12 pp	0.94 pp	0.131
	Nondual Eligible	70,850	3.9%	3.8%	58,240	3.8%	3.7%	0.01 pp	-0.18 pp	0.19 pp	-0.21 pp	0.23 pp	0.954

Note: See the first page of this appendix for data sources and more information.

Exhibit K.12: Differential Impact of BPCI Advanced on Mortality During the Anchor Stay Through the 90-day PDP, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, January 1, 2020 – December 31, 2020

Clinical Episode	Dual Eligible Relative Change (DiD)	Nondual Eligible Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-value
Medical	0.16 pp	-0.42 pp	0.58 pp	0.13 pp	1.03 pp	0.05 pp	1.11 pp	0.033
Surgical	0.41 pp ‡	0.01 pp	0.40 pp ‡	-0.07 pp	0.88 pp	-0.16 pp	0.97 pp	0.159

Note: See the first page of this appendix for data sources and more information.

Exhibit K.13: Share of Episodes with Confirmed COVID-19 Diagnosis for Black or African American Beneficiaries Compared to Non-Hispanic White Beneficiaries, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episode	Black or African American		Non-Hispanic White	
	BPCI Advanced Episodes	Comparison Group Episodes	BPCI Advanced Episodes	Comparison Group Episodes
Medical	29.7%	28.1%	20.8%	20.6%
Surgical	4.6%	5.0%	4.3%	4.3%

Note: See the first page of this appendix for data sources and more information.

Exhibit K.14: Share of Episodes with Confirmed COVID-19 Diagnosis for Dual-Eligible Beneficiaries Compared to Nondual-Eligible Beneficiaries, Model Year 3, January 1, 2020 – December 31, 2020

Clinical Episode	Dual Eligible		Nondual Eligible	
	BPCI Advanced Episodes	Comparison Group Episodes	BPCI Advanced Episodes	Comparison Group Episodes
Medical	30.3%	30.1%	20.1%	19.9%
Surgical	8.5%	8.5%	3.8%	3.8%

Note: See the first page of this appendix for data sources and more information.

Exhibit K.15: Relative Change in Total Allowed Payments Associated with the BPCI Advanced Model, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean	MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean						
Medical	Black or African American	40,377	\$26,348	\$26,085	41,307	\$25,893	\$26,623	-\$992 ‡	-\$1,300	-\$685	-\$1,359	-\$626	<0.001
	Non-Hispanic White	305,908	\$25,835	\$25,530	306,791	\$25,457	\$25,705	-\$553 ‡	-\$699	-\$407	-\$727	-\$379	<0.001
Surgical	Black or African American	5,211	\$30,812	\$28,035	4,339	\$31,022	\$30,024	-\$1,779	-\$2,364	-\$1,194	-\$2,477	-\$1,082	<0.001
	Non-Hispanic White	101,774	\$30,158	\$27,771	86,025	\$29,739	\$28,646	-\$1,293	-\$1,563	-\$1,022	-\$1,615	-\$970	<0.001

Note: See the first page of this appendix for data sources and more information.

Exhibit K.16: Differential Impact of BPCI Advanced on Total Allowed Payments, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Black or African American Relative Change (DiD)	Non-Hispanic White Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	-\$992 ‡	-\$553 ‡	-\$439	-\$748	-\$131	-\$807	-\$72	0.019
Surgical	-\$1,779	-\$1,293	-\$486	-\$1,049	\$76	-\$1,157	\$184	0.155

Note: See the first page of this appendix for data sources and more information.

Exhibit K.17: Relative Change in Unplanned Readmissions Through the 90-day PDP Associated with the BPCI Advanced Model, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean	MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean						
Medical	Black or African American	39,825	34.0%	32.6%	40,871	33.5%	32.5%	-0.34 pp ‡	-0.96 pp	0.29 pp	-1.07 pp	0.41 pp	0.377
	Non-Hispanic White	303,366	32.2%	31.2%	304,555	32.1%	31.2%	-0.10 pp ‡	-0.35 pp	0.15 pp	-0.40 pp	0.20 pp	0.517
Surgical	Black or African American	5,208	13.8%	13.1%	4,337	13.5%	12.5%	0.35 pp	-0.83 pp	1.53 pp	-1.06 pp	1.76 pp	0.628
	Non-Hispanic White	101,727	13.6%	12.7%	85,987	13.4%	13.1%	-0.61 pp	-1.15 pp	-0.07 pp	-1.25 pp	0.03 pp	0.063

Note: See the first page of this appendix for data sources and more information.

Exhibit K.18: Differential Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Black or African American Relative Change (DiD)	Non-Hispanic White Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	-0.34 pp ‡	-0.10 pp ‡	-0.24 pp	-0.90 pp	0.42 pp	-1.02 pp	0.55 pp	0.555
Surgical	0.35 pp	-0.61 pp	0.96 pp	-0.25 pp	2.17 pp	-0.48 pp	2.40 pp	0.193

Note: See the first page of this appendix for data sources and more information.

Exhibit K.19: Relative Change in Mortality Through the 90-day PDP Associated with the BPCI Advanced Model, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean	MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean						
Medical	Black or African American	39,209	14.1%	12.5%	40,187	14.5%	12.8%	0.10 pp	-0.32 pp	0.53 pp	-0.41 pp	0.61 pp	0.692
	Non-Hispanic White	300,280	16.0%	14.2%	301,317	15.8%	13.9%	0.10 pp	-0.11 pp	0.32 pp	-0.15 pp	0.36 pp	0.426
Surgical	Black or African American	5,186	2.8%	2.1%	4,320	2.6%	2.0%	-0.15 pp	-0.68 pp	0.39 pp	-0.78 pp	0.49 pp	0.653
	Non-Hispanic White	101,074	3.3%	2.7%	85,402	3.2%	2.6%	0.00 pp	-0.13 pp	0.14 pp	-0.15 pp	0.16 pp	0.952

Note: See the first page of this appendix for data sources and more information.

Exhibit K.20: Differential Impact of BPCI Advanced on Mortality Through the 90-day PDP, Black or African American Beneficiaries and Non-Hispanic White Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Black or African American Relative Change (DiD)	Non-Hispanic White Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	0.10 pp	0.10 pp	0.00 pp	-0.45 pp	0.45 pp	-0.53 pp	0.53 pp	1.000
Surgical	-0.15 pp	0.00 pp	-0.15 pp	-0.70 pp	0.40 pp	-0.80 pp	0.50 pp	0.651

Note: See the first page of this appendix for data sources and more information.

Exhibit K.21: Relative Change in Total Allowed Payments Associated with the BPCI Advanced Model, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean	MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean						
Medical	Dual Eligible	98,250	\$26,543	\$26,551	93,953	\$26,278	\$27,114	-\$827 ‡	-\$1,080	-\$574	-\$1,129	-\$526	<0.001
	Nondual Eligible	287,881	\$25,683	\$25,270	289,449	\$25,299	\$25,444	-\$559 ‡	-\$697	-\$420	-\$724	-\$394	<0.001
Surgical	Dual Eligible	12,100	\$32,321	\$29,470	10,283	\$31,994	\$30,853	-\$1,711	-\$2,178	-\$1,244	-\$2,268	-\$1,154	<0.001
	Nondual Eligible	102,837	\$29,857	\$27,520	86,120	\$29,460	\$28,400	-\$1,278	-\$1,550	-\$1,005	-\$1,602	-\$953	<0.001

Note: See the first page of this appendix for data sources and more information.

Exhibit K.22: Differential Impact of BPCI Advanced on Total Allowed Payments, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Dual Eligible Relative Change (DiD)	Nondual Eligible Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	-\$827 ‡	-\$559 ‡	-\$269	-\$512	-\$25	-\$559	\$22	0.070
Surgical	-\$1,711	-\$1,278	-\$434	-\$868	\$1	-\$951	\$84	0.100

Note: See the first page of this appendix for data sources and more information.

Exhibit K.23: Relative Change in Unplanned Readmissions Through the 90-day PDP Associated with the BPCI Advanced Model, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
		MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean	MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean						
Medical	Dual Eligible	96,632	32.9%	31.8%	92,636	32.9%	31.7%	0.09 pp	-0.31 pp	0.49 pp	-0.38 pp	0.57 pp	0.704
	Nondual Eligible	285,886	32.2%	31.2%	287,743	32.1%	31.2%	-0.15 pp ‡	-0.41 pp	0.11 pp	-0.46 pp	0.16 pp	0.334
Surgical	Dual Eligible	12,082	15.0%	12.9%	10,268	14.7%	13.6%	-0.91 pp	-1.69 pp	-0.13 pp	-1.83 pp	0.02 pp	0.055
	Nondual Eligible	102,802	13.4%	12.6%	86,093	13.2%	13.0%	-0.56 pp	-1.13 pp	0.00 pp	-1.24 pp	0.11 pp	0.102

Note: See the first page of this appendix for data sources and more information.

Exhibit K.24: Differential Impact of BPCI Advanced on Unplanned Readmissions Through the 90-day PDP, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Dual Eligible Relative Change (DiD)	Nondual Eligible Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-Value
Medical	0.09 pp	-0.15 pp ‡	0.24 pp	-0.20 pp	0.68 pp	-0.28 pp	0.77 pp	0.364
Surgical	-0.91 pp	-0.56 pp	-0.34 pp	-1.23 pp	0.54 pp	-1.40 pp	0.71 pp	0.523

Note: See the first page of this appendix for data sources and more information.

Exhibit K.25: Relative Change in Mortality Through the 90-day PDP Associated with the BPCI Advanced Model, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Population	BPCI Advanced			Comparison			Relative Change (DiD)	90% LCI	90% UCI	95% LCI	95% UCI	P-value
		MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean	MY1&2 Episodes (N)	Baseline Mean	MY1&2 Mean						
Medical	Dual Eligible	95,087	15.4%	13.8%	91,053	15.6%	13.9%	0.16 pp	-0.17 pp	0.49 pp	-0.24 pp	0.55 pp	0.433
	Nondual Eligible	283,173	15.6%	13.8%	284,891	15.4%	13.5%	0.06 pp	-0.15 pp	0.27 pp	-0.19 pp	0.31 pp	0.653
Surgical	Dual Eligible	11,936	3.9%	3.1%	10,150	3.9%	3.1%	-0.02 pp	-0.39 pp	0.35 pp	-0.46 pp	0.42 pp	0.924
	Nondual Eligible	102,230	3.1%	2.5%	85,591	3.0%	2.5%	-0.03 pp	-0.17 pp	0.10 pp	-0.19 pp	0.12 pp	0.665

Note: See the first page of this appendix for data sources and more information.

Exhibit K.26: Differential Impact of BPCI Advanced on Mortality Through the 90-day PDP, Dual-Eligible Beneficiaries and Nondual-Eligible Beneficiaries, Hospitals and PGPs, October 1, 2018 – December 31, 2019

Clinical Episode	Dual Eligible Relative Change (DiD)	Nondual Eligible Relative Change (DiD)	Differential Change (Difference in DiDs)	90% LCI	90% UCI	95% LCI	95% UCI	P-value
Medical	0.16 pp	0.06 pp	0.10 pp	-0.25 pp	0.45 pp	-0.31 pp	0.52 pp	0.634
Surgical	-0.02 pp	-0.03 pp	0.01 pp	-0.38 pp	0.40 pp	-0.45 pp	0.48 pp	0.955

Note: See the first page of this appendix for data sources and more information.

Appendix L: Tables of Results from Beneficiary Survey for Beneficiaries from Populations that have been Historically Underserved

The following tables display the results for respondents to the beneficiary survey, which provides self-reported changes in functional status, care experiences, and satisfaction for beneficiaries with episodes in Model Year 4 (2021). The estimates are the result of cross-sectional logistic regression models for binary or trinary indicators, controlling for beneficiary, hospital, and neighborhood characteristics. All responses were weighted for non-response and sampling design and are reported in percentage point terms. The race and ethnicity data come from the Research Triangle Institute (RTI) race codes from the Master Beneficiary Summary File. The RTI race code is created based on beneficiaries' self-reporting to Medicare and the Social Security Administration, and RTI's race imputation algorithm based on beneficiaries' names and geography. We used beneficiary ZIP codes to identify high-ADI and rural beneficiaries. High ADI indicates a beneficiary's ZIP code was in the top 20% of the ADI. Rural ZIP codes were identified by the Federal Office of Rural Health Policy.

Table L.1 shows the sample sizes for the historically underserved populations that were analyzed. Tables L.2-L.12 show detailed results for beneficiary populations that have been historically underserved, as well for beneficiaries from reference populations. Tables L.13-L.18 compare results from populations that have been historically underserved to results from corresponding reference populations. We report upper and lower confidence intervals, as well as p-values to indicate joint significance for measures with multiple outcomes. All results are based on the BPCI Advanced evaluation team's analysis of BPCI Advanced and comparison beneficiary survey responses for episodes that began July or August 2021.

Please refer to the following abbreviations, which are used throughout this appendix:

- ADI = Area Deprivation Index
- LCI = lower confidence interval
- PGP = physician group practice
- pp = percentage points
- UCI = upper confidence interval

Exhibit L.1: Sample Sizes of Beneficiaries From Historically Underserved Populations, Wave 2 (July and August 2021)

Underserved Population		BPCI Advanced Respondents (N)	Comparison Respondents (N)
Hospital Episodes	Black/African American Beneficiaries	361	380
	Hispanic Beneficiaries	375	423
	Dual-Eligible Beneficiaries	567	649
	Beneficiaries Living in High-ADI ZIP Codes	503	568
	Beneficiaries Living in Rural ZIP Codes	694	966
PGP Episodes	Beneficiaries Living in Rural ZIP Codes	568	606

Note: See the first page of this appendix for data sources and more information.

Exhibit L.2: Beneficiary Survey Outcomes: Hospitals, Black or African American Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	62.8	53.9	8.9	1.1	16.6	2.4	15.4	0.016
		Maintained	9.7	16.2	-6.4	-11.8	-1.1	-10.9	-2.0	
		Declined	27.4	29.9	-2.4	-10.4	5.6	-9.1	4.3	
	Planning regular tasks	Improvement	55.2	55.4	-0.2	-8.3	7.8	-7.0	6.5	0.666
		Maintained	11.6	13.7	-2.1	-7.2	3.0	-6.4	2.1	
		Declined	33.3	30.9	2.3	-5.5	10.2	-4.2	8.9	
	Use of mobility device	Improvement	36.1	38.8	-2.7	-10.7	5.3	-9.4	4.0	0.638
		Maintained	15.2	12.6	2.5	-3.2	8.3	-2.3	7.3	
		Declined	48.7	48.5	0.2	-8.0	8.4	-6.7	7.0	
	Walking without rest	Improvement	33.6	30.5	3.1	-5.1	11.4	-3.8	10.0	0.756
		Maintained	19.9	21.2	-1.3	-7.8	5.3	-6.8	4.2	
		Declined	46.5	48.4	-1.8	-10.2	6.5	-8.8	5.2	
	Going up or down stairs	Improvement	28.8	33.8	-5.0	-13.8	3.8	-12.4	2.4	0.535
		Maintained	27.4	25.3	2.1	-6.1	10.2	-4.8	8.9	
		Declined	43.8	40.9	3.0	-5.4	11.3	-4.1	10.0	
	Physical/emotional problems limiting social activities	Improvement	44.2	48.2	-4.0	-13.7	5.8	-12.1	4.2	0.701
		Maintained	23.8	20.9	2.9	-5.9	11.6	-4.5	10.2	
		Declined	32.0	30.9	1.1	-8.1	10.3	-6.6	8.8	
	Pain limiting regular activities	Improvement	39.7	42.6	-2.9	-12.8	7.0	-11.2	5.4	0.217
		Maintained	34.0	26.2	7.8	-1.1	16.7	0.3	15.2	
		Declined	26.3	31.2	-4.8	-14.2	4.5	-12.7	3.0	

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	88.9	89.1	-0.3	-6.2	5.7	-5.2	4.7	0.934
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	78.9	86.8	-7.9	-16.0	0.1	-14.7	-1.2	0.053
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	92.8	88.9	3.9	-1.8	9.6	-0.9	8.6	0.181
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	87.8	88.3	-0.5	-7.0	6.0	-5.9	4.9	0.880
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	90.9	90.7	0.1	-5.8	6.1	-4.8	5.1	0.961
	Able to manage your health needs since returning home	Strongly Agree or Agree	92.3	92.9	-0.5	-5.4	4.3	-4.6	3.5	0.825
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	84.0	89.5	-5.5	-13.1	2.1	-11.8	0.8	0.154
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	69.0	68.9	0.1	-11.4	11.5	-9.5	9.7	0.990
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	55.0	59.6	-4.7	-13.9	4.5	-12.4	3.0
Rating of all care received after leaving the hospital		9-10	55.0	55.5	-0.4	-10.3	9.4	-8.7	7.8	0.803
		7-8	25.9	28.0	-2.1	-10.9	6.8	-9.5	5.4	
		0-6	19.1	16.5	2.5	-5.6	10.6	-4.3	9.3	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.3: Beneficiary Survey Outcomes: Hospitals, Hispanic Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	57.0	59.0	-2.0	-11.1	7.1	-9.6	5.6	0.877
		Maintained	16.0	14.6	1.3	-4.3	7.0	-3.4	6.1	
		Declined	27.0	26.4	0.6	-7.1	8.4	-5.9	7.2	
	Planning regular tasks	Improvement	49.7	57.4	-7.7	-16.5	1.1	-15.1	-0.3	0.227
		Maintained	13.3	11.9	1.4	-3.5	6.4	-2.7	5.6	
		Declined	37.0	30.7	6.3	-2.2	14.7	-0.8	13.3	
	Use of mobility device	Improvement	48.7	44.8	3.8	-4.9	12.6	-3.5	11.2	0.540
		Maintained	12.5	11.0	1.5	-4.3	7.2	-3.4	6.3	
		Declined	38.8	44.1	-5.3	-14.6	4.1	-13.1	2.5	
	Walking without rest	Improvement	39.1	37.7	1.3	-9.4	12.0	-7.6	10.3	0.500
		Maintained	22.1	19.1	3.0	-4.6	10.5	-3.4	9.3	
		Declined	38.8	43.1	-4.3	-12.9	4.3	-11.5	2.9	
	Going up or down stairs	Improvement	32.8	36.0	-3.2	-13.6	7.1	-11.9	5.4	0.419
		Maintained	25.9	20.7	5.3	-2.6	13.1	-1.3	11.8	
		Declined	41.3	43.3	-2.0	-11.5	7.4	-9.9	5.9	
	Physical/emotional problems limiting social activities	Improvement	48.3	49.3	-1.0	-10.8	8.7	-9.2	7.2	0.705
		Maintained	20.4	17.5	2.9	-4.2	10.0	-3.0	8.9	
		Declined	31.3	33.2	-1.9	-10.8	7.0	-9.3	5.5	
Pain limiting regular activities	Improvement	36.5	45.2	-8.7	-18.5	1.2	-17.0	-0.4	0.103	
	Maintained	32.6	23.5	9.1	0.3	17.9	1.7	16.4		
	Declined	30.9	31.3	-0.4	-8.8	8.1	-7.5	6.7		

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	88.0	91.1	-3.1	-8.7	2.5	-7.8	1.6	0.281
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	80.0	87.3	-7.4	-15.2	0.5	-14.0	-0.8	0.065
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	90.5	93.1	-2.7	-7.6	2.3	-6.8	1.5	0.295
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	90.3	93.0	-2.7	-7.7	2.3	-6.9	1.5	0.285
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	91.2	91.4	-0.2	-5.6	5.2	-4.7	4.3	0.944
	Able to manage your health needs since returning home	Strongly Agree or Agree	93.4	96.5	-3.1	-6.9	0.8	-6.3	0.2	0.119
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	87.2	91.8	-4.6	-10.6	1.4	-9.6	0.4	0.131
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	63.0	71.3	-8.3	-18.3	1.8	-16.7	0.2	0.107
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	56.1	59.9	-3.8	-13.0	5.4	-11.5	4.0
Rating of all care received after leaving the hospital		9-10	57.2	60.0	-2.8	-12.1	6.5	-10.6	5.0	0.668
		7-8	25.8	25.9	-0.1	-8.7	8.4	-7.3	7.1	
		0-6	17.0	14.0	2.9	-3.7	9.6	-2.6	8.5	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.4: Beneficiary Survey Outcomes: Hospitals, Non-Hispanic White Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	61.2	62.8	-1.6	-4.5	1.3	-4.0	0.8	0.544
		Maintained	14.9	14.2	0.8	-1.6	3.1	-1.2	2.7	
		Declined	23.9	23.0	0.8	-2.1	3.7	-1.6	3.2	
	Planning regular tasks	Improvement	62.0	62.9	-0.8	-3.5	1.9	-3.1	1.4	0.486
		Maintained	14.3	12.9	1.4	-0.9	3.8	-0.5	3.4	
		Declined	23.6	24.2	-0.6	-3.2	2.0	-2.8	1.6	
	Use of mobility device	Improvement	39.6	39.6	0.0	-2.6	2.6	-2.2	2.2	0.312
		Maintained	12.5	14.0	-1.5	-3.6	0.5	-3.2	0.2	
		Declined	47.9	46.4	1.5	-1.3	4.4	-0.9	3.9	
	Walking without rest	Improvement	32.4	33.1	-0.7	-3.5	2.1	-3.1	1.6	0.726
		Maintained	23.1	23.6	-0.5	-3.2	2.2	-2.7	1.7	
		Declined	44.5	43.3	1.2	-1.8	4.2	-1.3	3.7	
	Going up or down stairs	Improvement	31.3	35.0	-3.7	-6.6	-0.8	-6.1	-1.3	0.045
		Maintained	24.1	22.5	1.7	-1.0	4.3	-0.6	3.9	
		Declined	44.6	42.5	2.0	-0.7	4.8	-0.3	4.4	
	Physical/emotional problems limiting social activities	Improvement	48.7	50.9	-2.2	-5.7	1.4	-5.2	0.8	0.455
		Maintained	21.8	21.6	0.2	-2.7	3.2	-2.3	2.8	
		Declined	29.5	27.5	1.9	-1.6	5.4	-1.0	4.8	
	Pain limiting regular activities	Improvement	43.3	45.4	-2.0	-5.6	1.6	-5.0	1.0	0.455
		Maintained	30.2	29.9	0.3	-3.3	3.8	-2.7	3.2	
		Declined	26.5	24.7	1.8	-1.5	5.1	-1.0	4.5	

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	91.2	90.6	0.6	-1.8	3.0	-1.4	2.6	0.612
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	85.3	87.3	-1.9	-4.8	0.9	-4.3	0.5	0.182
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	88.6	88.8	-0.2	-2.9	2.4	-2.4	2.0	0.855
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	89.0	88.6	0.4	-2.3	3.1	-1.8	2.6	0.770
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	89.6	90.0	-0.4	-2.9	2.1	-2.5	1.7	0.740
	Able to manage your health needs since returning home	Strongly Agree or Agree	94.7	93.1	1.5	-0.6	3.6	-0.2	3.3	0.156
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.7	86.3	-0.6	-3.4	2.1	-2.9	1.7	0.656
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	70.8	72.4	-1.5	-5.9	2.8	-5.2	2.1	0.489
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	58.4	59.1	-0.7	-4.1	2.7	-3.6	2.1
Rating of all care received after leaving the hospital		9-10	58.0	59.4	-1.4	-5.2	2.4	-4.6	1.8	0.540
		7-8	23.6	23.9	-0.3	-3.5	2.9	-3.0	2.4	
		0-6	18.4	16.7	1.7	-1.3	4.7	-0.8	4.2	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.5: Beneficiary Survey Outcomes: Hospitals, Dual-Eligible Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	52.0	54.9	-2.9	-9.2	3.5	-8.2	2.4	0.666
		Maintained	14.3	13.7	0.6	-2.9	4.1	-2.3	3.6	
		Declined	33.7	31.5	2.2	-4.2	8.7	-3.2	7.6	
	Planning regular tasks	Improvement	50.9	55.6	-4.7	-11.0	1.7	-10.0	0.6	0.199
		Maintained	13.7	14.5	-0.8	-4.6	2.9	-4.0	2.3	
		Declined	35.4	29.8	5.5	-0.5	11.6	0.5	10.6	
	Use of mobility device	Improvement	37.7	41.4	-3.7	-10.4	3.1	-9.3	2.0	0.493
		Maintained	13.6	11.7	1.9	-2.5	6.4	-1.8	5.7	
		Declined	48.7	46.9	1.7	-5.0	8.5	-3.9	7.4	
	Walking without rest	Improvement	30.0	32.5	-2.5	-9.4	4.4	-8.3	3.3	0.476
		Maintained	21.1	22.7	-1.5	-7.8	4.8	-6.8	3.8	
		Declined	48.9	44.8	4.1	-2.5	10.6	-1.4	9.5	
	Going up or down stairs	Improvement	29.0	38.3	-9.3	-16.5	-2.2	-15.3	-3.3	0.021
		Maintained	25.2	23.0	2.2	-4.3	8.6	-3.2	7.6	
		Declined	45.8	38.7	7.1	1.0	13.2	2.0	12.2	
	Physical/emotional problems limiting social activities	Improvement	48.6	51.6	-3.0	-10.6	4.6	-9.4	3.4	0.739
		Maintained	21.7	20.0	1.7	-4.4	7.7	-3.4	6.7	
		Declined	29.8	28.4	1.4	-5.0	7.7	-4.0	6.7	
	Pain limiting regular activities	Improvement	36.6	39.8	-3.3	-11.3	4.7	-10.0	3.4	0.408
		Maintained	36.2	31.3	4.9	-2.3	12.1	-1.1	10.9	
		Declined	27.2	28.9	-1.6	-8.2	4.9	-7.1	3.9	

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	91.2	89.3	1.9	-2.0	5.8	-1.4	5.2	0.347
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	86.1	87.8	-1.7	-6.7	3.4	-5.9	2.6	0.526
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	91.4	91.5	-0.1	-4.2	4.0	-3.6	3.4	0.961
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	90.3	92.0	-1.8	-5.8	2.3	-5.2	1.7	0.398
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	92.1	92.1	0.0	-4.3	4.2	-3.6	3.5	0.996
	Able to manage your health needs since returning home	Strongly Agree or Agree	93.9	93.8	0.2	-3.3	3.6	-2.7	3.0	0.926
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	84.4	87.9	-3.6	-9.5	2.3	-8.5	1.4	0.234
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	74.4	77.9	-3.5	-11.0	4.1	-9.8	2.8	0.365
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	61.7	62.8	-1.1	-7.7	5.6	-6.7	4.5
Rating of all care received after leaving the hospital		9-10	52.7	58.8	-6.2	-13.8	1.5	-12.6	0.3	0.280
		7-8	26.3	23.2	3.1	-3.8	10.0	-2.6	8.9	
		0-6	21.0	18.0	3.0	-2.8	8.8	-1.9	7.9	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.6: Beneficiary Survey Outcomes: Hospitals, Nondual-Eligible Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	62.5	63.1	-0.6	-3.2	2.0	-2.8	1.6	0.903
		Maintained	14.8	14.7	0.1	-2.1	2.4	-1.7	2.0	
		Declined	22.7	22.2	0.4	-2.1	3.0	-1.7	2.6	
	Planning regular tasks	Improvement	63.0	63.0	0.0	-2.5	2.6	-2.1	2.2	0.562
		Maintained	13.3	12.3	1.0	-1.1	3.2	-0.8	2.8	
		Declined	23.7	24.7	-1.1	-3.5	1.4	-3.1	1.0	
	Use of mobility device	Improvement	39.9	39.6	0.3	-2.0	2.6	-1.7	2.2	0.515
		Maintained	12.8	13.9	-1.1	-2.9	0.8	-2.6	0.5	
		Declined	47.3	46.5	0.8	-1.7	3.3	-1.3	2.9	
	Walking without rest	Improvement	33.1	33.1	0.0	-2.5	2.5	-2.1	2.1	0.999
		Maintained	23.0	22.9	0.0	-2.3	2.4	-1.9	2.0	
		Declined	43.9	44.0	-0.1	-2.8	2.7	-2.4	2.2	
	Going up or down stairs	Improvement	31.4	32.8	-1.4	-3.9	1.1	-3.5	0.7	0.557
		Maintained	24.2	23.4	0.8	-1.6	3.1	-1.2	2.8	
		Declined	44.4	43.8	0.6	-2.0	3.2	-1.5	2.8	
	Physical/emotional problems limiting social activities	Improvement	47.2	49.1	-1.9	-5.0	1.3	-4.5	0.8	0.500
		Maintained	22.5	21.6	0.9	-1.8	3.6	-1.4	3.2	
		Declined	30.3	29.3	1.0	-2.1	4.1	-1.6	3.6	
	Pain limiting regular activities	Improvement	43.9	46.3	-2.3	-5.5	0.9	-5.0	0.3	0.337
		Maintained	29.5	28.7	0.8	-2.3	3.9	-1.8	3.4	
		Declined	26.6	25.1	1.5	-1.4	4.5	-1.0	4.0	

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.1	90.5	-0.4	-2.6	1.8	-2.2	1.5	0.747
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	83.6	86.7	-3.1	-5.8	-0.4	-5.4	-0.8	0.025
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	88.4	88.8	-0.5	-2.9	1.9	-2.5	1.5	0.698
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	88.6	88.7	-0.1	-2.5	2.4	-2.1	2.0	0.955
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	89.2	89.9	-0.8	-3.1	1.5	-2.7	1.2	0.506
	Able to manage your health needs since returning home	Strongly Agree or Agree	93.9	93.3	0.7	-1.3	2.6	-0.9	2.3	0.491
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.5	87.3	-1.8	-4.3	0.6	-3.9	0.2	0.146
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	67.6	70.4	-2.8	-6.9	1.3	-6.3	0.6	0.178
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	56.3	56.6	-0.3	-3.2	2.7	-2.8	2.2
Rating of all care received after leaving the hospital		9-10	57.8	59.0	-1.2	-4.5	2.1	-3.9	1.6	0.459
		7-8	24.1	24.7	-0.6	-3.4	2.2	-3.0	1.8	
		0-6	18.1	16.3	1.8	-1.0	4.6	-0.6	4.1	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.7: Beneficiary Survey Outcomes: Hospitals, Respondent ZIP Code in Top 20% ADI, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	59.0	57.1	1.8	-4.7	8.4	-3.7	7.4	0.162
		Maintained	14.5	19.4	-4.9	-10.0	0.2	-9.2	-0.6	
		Declined	26.5	23.5	3.0	-3.1	9.2	-2.1	8.2	
	Planning regular tasks	Improvement	62.0	64.7	-2.8	-9.3	3.8	-8.3	2.7	0.710
		Maintained	14.6	13.4	1.1	-3.9	6.2	-3.1	5.4	
		Declined	23.5	21.8	1.6	-4.3	7.6	-3.4	6.7	
	Use of mobility device	Improvement	40.4	39.7	0.6	-6.2	7.5	-5.1	6.4	0.959
		Maintained	13.4	14.1	-0.7	-5.7	4.3	-4.9	3.5	
		Declined	46.2	46.2	0.1	-6.8	6.9	-5.7	5.8	
	Walking without rest	Improvement	31.1	30.5	0.7	-6.2	7.6	-5.1	6.5	0.221
		Maintained	25.6	21.2	4.4	-1.6	10.4	-0.7	9.4	
		Declined	43.3	48.4	-5.1	-11.7	1.6	-10.7	0.5	
	Going up or down stairs	Improvement	26.5	32.8	-6.3	-13.3	0.8	-12.2	-0.4	0.146
		Maintained	26.6	21.4	5.2	-1.2	11.6	-0.2	10.6	
		Declined	46.9	45.9	1.1	-6.0	8.2	-4.9	7.0	
	Physical/emotional problems limiting social activities	Improvement	47.2	47.8	-0.6	-8.8	7.7	-7.5	6.3	0.605
		Maintained	26.0	22.6	3.4	-4.1	10.8	-2.9	9.6	
		Declined	26.8	29.6	-2.8	-9.9	4.4	-8.8	3.2	
	Pain limiting regular activities	Improvement	43.1	43.4	-0.4	-8.7	8.0	-7.3	6.6	0.536
		Maintained	34.0	30.1	3.9	-4.3	12.1	-3.0	10.8	
		Declined	23.0	26.5	-3.5	-10.8	3.7	-9.6	2.5	

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	89.9	91.1	-1.3	-6.0	3.4	-5.2	2.7	0.596
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	81.9	84.7	-2.8	-9.8	4.3	-8.7	3.1	0.438
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	86.9	91.6	-4.6	-10.3	1.1	-9.4	0.1	0.110
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	86.6	90.7	-4.1	-10.0	1.8	-9.0	0.9	0.177
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	88.8	91.8	-3.0	-8.6	2.5	-7.7	1.6	0.286
	Able to manage your health needs since returning home	Strongly Agree or Agree	94.1	94.3	-0.2	-4.2	3.7	-3.5	3.1	0.915
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	83.5	87.4	-3.9	-10.8	3.0	-9.6	1.9	0.269
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	67.7	72.5	-4.7	-15.0	5.5	-13.3	3.9	0.365
	Overall satisfaction with recovery	Quite a bit or Extreme	47.8	52.9	-5.1	-13.2	2.9	-11.9	1.6	0.209
Satisfaction with Care	Rating of all care received after leaving the hospital	9-10	54.3	59.7	-5.4	-14.3	3.4	-12.8	2.0	0.267
		7-8	20.3	21.3	-1.1	-8.5	6.3	-7.3	5.1	
		0-6	25.5	19.0	6.5	-1.4	14.4	-0.2	13.1	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.8: Beneficiary Survey Outcomes: Hospitals, Respondent ZIP Code Not in Top 20% ADI, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	60.0	61.9	-1.9	-4.5	0.7	-4.1	0.3	0.285
		Maintained	14.6	13.3	1.3	-0.7	3.2	-0.4	2.9	
		Declined	25.4	24.8	0.7	-1.9	3.2	-1.5	2.8	
	Planning regular tasks	Improvement	59.5	60.1	-0.6	-3.0	1.9	-2.7	1.5	0.855
		Maintained	13.2	12.8	0.4	-1.4	2.3	-1.1	2.0	
		Declined	27.3	27.2	0.1	-2.3	2.6	-1.9	2.2	
	Use of mobility device	Improvement	39.2	39.6	-0.4	-2.8	2.0	-2.4	1.6	0.754
		Maintained	12.6	13.2	-0.5	-2.4	1.3	-2.1	1.0	
		Declined	48.2	47.3	0.9	-1.7	3.5	-1.3	3.1	
	Walking without rest	Improvement	32.7	33.1	-0.4	-3.0	2.1	-2.5	1.7	0.365
		Maintained	21.8	23.2	-1.4	-3.8	1.1	-3.4	0.7	
		Declined	45.5	43.7	1.8	-0.9	4.5	-0.4	4.0	
	Going up or down stairs	Improvement	31.5	34.4	-2.9	-5.6	-0.2	-5.1	-0.7	0.101
		Maintained	24.1	23.1	1.0	-1.4	3.4	-1.0	3.1	
		Declined	44.4	42.5	1.9	-0.7	4.5	-0.3	4.0	
	Physical/emotional problems limiting social activities	Improvement	47.3	49.7	-2.4	-5.6	0.8	-5.1	0.3	0.274
		Maintained	21.5	21.4	0.1	-2.6	2.8	-2.1	2.4	
		Declined	31.2	28.9	2.3	-0.9	5.4	-0.3	4.9	
	Pain limiting regular activities	Improvement	41.9	44.9	-3.0	-6.3	0.2	-5.7	-0.3	0.177
		Maintained	30.3	29.2	1.1	-2.0	4.2	-1.5	3.7	
		Declined	27.8	25.9	1.9	-1.2	5.0	-0.7	4.5	

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.4	90.0	0.3	-1.8	2.5	-1.5	2.1	0.769
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	84.7	87.4	-2.6	-5.2	0.0	-4.8	-0.4	0.048
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	89.5	89.1	0.5	-1.9	2.8	-1.5	2.4	0.688
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	89.5	89.0	0.5	-1.8	2.7	-1.4	2.4	0.687
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	90.0	90.0	0.0	-2.2	2.2	-1.9	1.9	1.000
	Able to manage your health needs since returning home	Strongly Agree or Agree	94.0	93.0	1.0	-1.0	2.9	-0.7	2.6	0.328
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.5	87.3	-1.8	-4.3	0.6	-3.9	0.2	0.141
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	69.6	71.5	-1.9	-5.9	2.0	-5.2	1.4	0.343
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	59.1	59.1	0.1	-3.0	3.2	-2.5	2.7
Rating of all care received after leaving the hospital		9-10	57.2	58.2	-1.1	-4.4	2.3	-3.9	1.7	0.747
		7-8	25.3	25.2	0.1	-2.7	3.0	-2.3	2.5	
		0-6	17.6	16.6	0.9	-1.6	3.5	-1.2	3.1	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.9: Beneficiary Survey Outcomes: Hospitals, Respondents Living in Rural ZIP Code, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	62.0	57.4	4.6	-1.7	10.9	-0.7	9.9	0.278
		Maintained	14.1	17.0	-2.9	-7.6	1.8	-6.9	1.1	
		Declined	23.9	25.6	-1.7	-7.9	4.5	-6.9	3.5	
	Planning regular tasks	Improvement	61.1	60.4	0.7	-5.5	6.8	-4.5	5.9	0.950
		Maintained	12.5	12.2	0.3	-4.2	4.8	-3.5	4.1	
		Declined	26.4	27.4	-1.0	-6.9	5.0	-5.9	4.0	
	Use of mobility device	Improvement	41.5	39.1	2.4	-3.1	7.9	-2.3	7.0	0.690
		Maintained	13.9	14.1	-0.2	-4.8	4.3	-4.1	3.6	
		Declined	44.6	46.8	-2.1	-8.0	3.8	-7.1	2.8	
	Walking without rest	Improvement	33.1	35.1	-2.0	-7.6	3.5	-6.7	2.6	0.162
		Maintained	23.8	19.1	4.7	-0.1	9.5	0.6	8.7	
		Declined	43.2	45.8	-2.7	-8.3	3.0	-7.4	2.1	
	Going up or down stairs	Improvement	29.3	35.1	-5.8	-11.8	0.1	-10.8	-0.8	0.138
		Maintained	22.9	22.1	0.8	-4.6	6.2	-3.7	5.3	
		Declined	47.8	42.9	5.0	-1.2	11.2	-0.2	10.2	
	Physical/emotional problems limiting social activities	Improvement	47.5	45.6	1.9	-5.6	9.5	-4.4	8.3	0.255
		Maintained	25.7	22.2	3.5	-3.1	10.1	-2.0	9.0	
		Declined	26.8	32.2	-5.4	-12.2	1.3	-11.1	0.3	
Pain limiting regular activities	Improvement	40.6	40.0	0.7	-6.4	7.7	-5.3	6.6	0.967	
	Maintained	32.7	33.6	-0.9	-7.8	6.1	-6.7	5.0		
	Declined	26.7	26.4	0.2	-6.9	7.3	-5.7	6.2		

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	91.0	92.6	-1.6	-6.1	2.8	-5.3	2.1	0.480
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	84.7	88.9	-4.1	-9.9	1.6	-9.0	0.7	0.160
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	86.9	90.2	-3.3	-8.3	1.7	-7.5	0.9	0.194
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	89.1	91.7	-2.7	-7.6	2.3	-6.8	1.5	0.289
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	88.8	91.2	-2.4	-7.7	3.0	-6.8	2.1	0.385
	Able to manage your health needs since returning home	Strongly Agree or Agree	93.7	95.5	-1.8	-5.6	2.0	-5.0	1.4	0.357
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.5	90.0	-4.5	-10.5	1.5	-9.5	0.5	0.141
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	66.0	70.5	-4.5	-14.2	5.1	-12.6	3.6	0.358
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	57.1	57.6	-0.5	-7.6	6.6	-6.4	5.4
Rating of all care received after leaving the hospital		9-10	58.2	59.4	-1.2	-9.5	7.2	-8.2	5.8	0.880
		7-8	24.3	24.6	-0.3	-7.6	7.0	-6.4	5.8	
		0-6	17.5	16.0	1.5	-4.2	7.2	-3.3	6.3	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.10: Beneficiary Survey Outcomes: Hospitals, Respondents Living in Non-Rural ZIP Code, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	59.8	61.8	-2.0	-4.6	0.6	-4.2	0.1	0.306
		Maintained	14.5	13.7	0.8	-1.3	2.8	-1.0	2.5	
		Declined	25.7	24.4	1.3	-1.2	3.8	-0.8	3.4	
	Planning regular tasks	Improvement	59.8	61.1	-1.3	-3.8	1.2	-3.4	0.8	0.534
		Maintained	13.8	12.9	0.9	-1.1	2.9	-0.8	2.6	
		Declined	26.4	26.0	0.3	-2.1	2.8	-1.7	2.4	
	Use of mobility device	Improvement	38.9	39.4	-0.5	-2.9	1.9	-2.5	1.5	0.823
		Maintained	12.9	13.2	-0.4	-2.3	1.6	-2.0	1.3	
		Declined	48.3	47.4	0.8	-1.8	3.5	-1.4	3.0	
	Walking without rest	Improvement	32.4	32.1	0.3	-2.4	3.0	-2.0	2.5	0.427
		Maintained	22.4	24.0	-1.6	-4.2	0.9	-3.8	0.5	
		Declined	45.3	43.9	1.4	-1.4	4.1	-1.0	3.7	
	Going up or down stairs	Improvement	31.1	34.1	-3.0	-5.7	-0.4	-5.3	-0.8	0.076
		Maintained	24.9	23.1	1.8	-0.6	4.3	-0.2	3.9	
		Declined	44.0	42.8	1.2	-1.3	3.7	-0.9	3.3	
	Physical/emotional problems limiting social activities	Improvement	47.6	50.4	-2.8	-6.0	0.5	-5.5	0.0	0.224
		Maintained	21.8	21.2	0.6	-2.1	3.4	-1.7	2.9	
		Declined	30.6	28.4	2.2	-0.9	5.2	-0.4	4.7	
Pain limiting regular activities	Improvement	42.3	46.0	-3.7	-7.0	-0.3	-6.5	-0.9	0.068	
	Maintained	31.0	27.9	3.1	-0.1	6.3	0.4	5.8		
	Declined	26.7	26.1	0.6	-2.5	3.6	-2.0	3.1		

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	90.1	89.5	0.6	-1.7	2.8	-1.3	2.5	0.607
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	84.5	86.6	-2.0	-4.7	0.6	-4.2	0.2	0.131
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	89.8	89.3	0.5	-1.9	2.8	-1.5	2.5	0.682
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	89.0	89.0	0.0	-2.4	2.4	-2.0	2.0	0.975
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	90.1	89.9	0.1	-2.2	2.4	-1.8	2.1	0.922
	Able to manage your health needs since returning home	Strongly Agree or Agree	94.0	92.6	1.4	-0.6	3.3	-0.3	3.0	0.181
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	85.1	86.7	-1.6	-4.2	1.0	-3.8	0.6	0.237
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	70.1	73.0	-2.9	-7.0	1.2	-6.3	0.5	0.167
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	57.6	58.6	-1.0	-4.2	2.1	-3.7	1.6
Rating of all care received after leaving the hospital		9-10	56.5	59.0	-2.5	-5.9	0.9	-5.4	0.4	0.278
		7-8	24.8	24.3	0.5	-2.4	3.4	-1.9	2.9	
		0-6	18.7	16.7	2.0	-0.8	4.8	-0.3	4.3	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.11: Beneficiary Survey Outcomes: PGPs, Respondents Living in Rural ZIP Code, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	65.8	65.3	0.5	-5.0	6.0	-4.1	5.1	0.611
		Maintained	16.4	14.8	1.6	-2.4	5.5	-1.7	4.9	
		Declined	17.8	19.9	-2.1	-7.2	3.0	-6.3	2.2	
	Planning regular tasks	Improvement	65.5	65.5	0.0	-4.8	4.8	-4.0	4.1	0.990
		Maintained	12.9	13.2	-0.3	-4.3	3.8	-3.7	3.1	
		Declined	21.6	21.4	0.3	-4.8	5.3	-4.0	4.5	
	Use of mobility device	Improvement	45.0	44.8	0.2	-4.6	5.0	-3.8	4.2	0.996
		Maintained	13.0	13.0	0.0	-3.9	3.9	-3.3	3.2	
		Declined	42.0	42.2	-0.2	-5.1	4.7	-4.3	3.9	
	Walking without rest	Improvement	35.2	36.2	-1.0	-6.7	4.6	-5.8	3.7	0.938
		Maintained	27.0	26.5	0.5	-4.5	5.5	-3.7	4.7	
		Declined	37.8	37.3	0.5	-4.7	5.8	-3.9	4.9	
	Going up or down stairs	Improvement	39.1	36.3	2.8	-3.0	8.5	-2.1	7.6	0.595
		Maintained	24.2	26.4	-2.2	-7.3	2.9	-6.5	2.1	
		Declined	36.7	37.3	-0.6	-6.0	4.8	-5.1	4.0	
	Physical/emotional problems limiting social activities	Improvement	51.4	52.8	-1.4	-7.9	5.1	-6.9	4.1	0.760
		Maintained	24.6	22.6	2.0	-3.3	7.4	-2.5	6.5	
		Declined	24.0	24.6	-0.6	-6.4	5.2	-5.5	4.3	
	Pain limiting regular activities	Improvement	50.3	44.1	6.2	-0.3	12.6	0.8	11.6	0.171
		Maintained	27.8	31.4	-3.6	-9.7	2.5	-8.7	1.5	
		Declined	21.9	24.4	-2.5	-8.2	3.1	-7.3	2.2	

Outcome	Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	94.1	91.5	2.6	-1.2	6.3	-0.6	5.7	0.178
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	89.6	89.4	0.2	-4.4	4.9	-3.7	4.1	0.924
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	93.9	93.3	0.6	-2.8	4.1	-2.2	3.5	0.716
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	91.6	91.8	-0.2	-4.3	3.9	-3.6	3.2	0.921
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	94.1	92.2	1.9	-1.9	5.7	-1.3	5.1	0.336
	Able to manage your health needs since returning home	Strongly Agree or Agree	96.2	94.8	1.4	-1.4	4.3	-0.9	3.8	0.322
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	90.3	89.0	1.3	-3.1	5.6	-2.4	4.9	0.567
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	72.3	70.5	1.7	-7.0	10.4	-5.6	9.0	0.698
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	64.7	65.8	-1.1	-7.0	4.9	-6.0	3.9	0.727
	Rating of all care received after leaving the hospital	9-10	66.1	59.1	7.1	0.7	13.4	1.7	12.4	0.023
		7-8	18.7	26.5	-7.9	-13.5	-2.2	-12.6	-3.1	
0-6		15.2	14.4	0.8	-4.1	5.7	-3.3	4.9		

Note: See the first page of this appendix for data sources and more information.

Exhibit L.12: Beneficiary Survey Outcomes: PGPs, Respondents Living in Non-Rural ZIP Code, Wave 2 (July and August 2021)

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	62.7	65.6	-2.9	-6.3	0.5	-5.7	-0.1	0.225
		Maintained	14.5	13.9	0.6	-2.1	3.2	-1.6	2.8	
		Declined	22.9	20.5	2.3	-0.9	5.5	-0.4	5.0	
	Planning regular tasks	Improvement	65.5	65.4	0.1	-3.2	3.4	-2.7	2.9	0.213
		Maintained	10.1	12.3	-2.2	-4.7	0.3	-4.3	-0.1	
		Declined	24.4	22.3	2.1	-1.4	5.5	-0.9	5.0	
	Use of mobility device	Improvement	40.7	41.7	-1.0	-4.4	2.5	-3.8	1.9	0.082
		Maintained	11.7	14.1	-2.4	-5.0	0.3	-4.6	-0.2	
		Declined	47.5	44.2	3.3	0.0	6.7	0.5	6.2	
	Walking without rest	Improvement	35.5	37.7	-2.2	-5.7	1.3	-5.2	0.8	0.216
		Maintained	23.0	23.6	-0.6	-4.1	2.8	-3.5	2.2	
		Declined	41.6	38.7	2.9	-0.4	6.1	0.1	5.6	
	Going up or down stairs	Improvement	34.1	35.8	-1.7	-5.2	1.8	-4.6	1.2	0.395
		Maintained	24.7	25.2	-0.5	-4.0	2.9	-3.4	2.3	
		Declined	41.2	39.0	2.2	-1.1	5.6	-0.6	5.0	
	Physical/emotional problems limiting social activities	Improvement	48.2	51.8	-3.6	-7.7	0.5	-7.1	-0.2	0.208
		Maintained	21.9	21.0	0.9	-2.4	4.3	-1.9	3.8	
		Declined	29.9	27.2	2.7	-1.1	6.4	-0.4	5.8	
Pain limiting regular activities	Improvement	49.6	46.9	2.7	-1.3	6.7	-0.7	6.0	0.345	
	Maintained	26.8	29.2	-2.4	-6.2	1.3	-5.6	0.7		
	Declined	23.6	23.9	-0.2	-3.8	3.4	-3.2	2.8		

Outcome		Response Category	BPCI Advanced Rate (%)	Comparison Rate (%)	Difference in Rate (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	88.9	90.9	-1.9	-4.6	0.8	-4.2	0.3	0.161
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	87.6	87.4	0.2	-2.7	3.2	-2.2	2.7	0.868
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	89.3	89.8	-0.6	-3.3	2.1	-2.8	1.7	0.683
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	88.8	89.0	-0.1	-2.9	2.7	-2.5	2.3	0.939
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	89.5	90.3	-0.9	-3.7	2.0	-3.2	1.5	0.556
	Able to manage your health needs since returning home	Strongly Agree or Agree	92.5	92.3	0.2	-2.2	2.7	-1.8	2.3	0.865
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	87.9	86.6	1.3	-2.0	4.5	-1.5	4.0	0.447
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	76.6	69.6	7.0	2.1	11.8	2.9	11.0	0.005
	Overall satisfaction with recovery	Quite a bit or Extreme	59.8	58.5	1.3	-2.5	5.1	-1.9	4.5	0.508
Satisfaction with Care	Rating of all care received after leaving the hospital	9-10	57.8	59.3	-1.5	-5.9	2.8	-5.2	2.1	0.688
		7-8	24.3	24.1	0.2	-3.5	3.8	-2.9	3.2	
		0-6	17.9	16.6	1.4	-1.9	4.6	-1.4	4.1	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.13: Beneficiary Survey Outcomes: Hospitals, Difference Between BPCI Advanced and Comparison Outcomes Among Black or African American Respondents Relative to Non-Hispanic White Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	Difference (Black or African American) (pp)	Difference (White) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	8.9	-1.6	10.4	2.1	18.7	3.5	17.4	0.010
		Maintained	-6.4	0.8	-7.2	-13.1	-1.3	-12.1	-2.3	
		Declined	-2.4	0.8	-3.2	-11.9	5.4	-10.5	4.0	
	Planning regular tasks	Improvement	-0.2	-0.8	0.6	-7.9	9.2	-6.6	7.8	0.427
		Maintained	-2.1	1.4	-3.6	-9.1	2.0	-8.2	1.1	
		Declined	2.3	-0.6	2.9	-5.3	11.2	-4.0	9.9	
	Use of mobility device	Improvement	-2.7	0.0	-2.7	-11.2	5.7	-9.8	4.4	0.415
		Maintained	2.5	-1.5	4.1	-2.0	10.1	-1.0	9.2	
		Declined	0.2	1.5	-1.3	-10.0	7.4	-8.6	6.0	
	Walking without rest	Improvement	3.1	-0.7	3.8	-4.9	12.5	-3.5	11.1	0.686
		Maintained	-1.3	-0.5	-0.8	-7.8	6.2	-6.6	5.1	
		Declined	-1.8	1.2	-3.0	-11.9	5.8	-10.5	4.4	
	Going up or down stairs	Improvement	-5.0	-3.7	-1.3	-10.7	8.1	-9.2	6.5	0.961
		Maintained	2.1	1.7	0.4	-8.3	9.1	-6.9	7.7	
		Declined	3.0	2.0	0.9	-7.8	9.6	-6.4	8.2	
	Physical/emotional problems limiting social activities	Improvement	-4.0	-2.2	-1.8	-12.2	8.6	-10.6	6.9	0.856
		Maintained	2.9	0.2	2.6	-6.7	11.9	-5.2	10.4	
		Declined	1.1	1.9	-0.8	-10.8	9.2	-9.2	7.6	
	Pain limiting regular activities	Improvement	-2.9	-2.0	-0.9	-11.3	9.5	-9.7	7.8	0.235
		Maintained	7.8	0.3	7.5	-2.0	17.1	-0.5	15.5	
		Declined	-4.8	1.8	-6.6	-16.5	3.3	-14.9	1.7	

Outcome	Response Category	Difference (Black or African American) (pp)	Difference (White) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	-0.3	0.6	-0.9	-7.4	5.6	-6.3	4.6	0.791
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	-7.9	-1.9	-6.0	-14.5	2.5	-13.1	1.1	0.166
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	3.9	-0.2	4.1	-2.2	10.4	-1.2	9.4	0.201
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	-0.5	0.4	-0.9	-8.0	6.2	-6.8	5.0	0.804
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	0.1	-0.4	0.6	-5.7	6.9	-4.7	5.8	0.859
	Able to manage your health needs since returning home	Strongly Agree or Agree	-0.5	1.5	-2.1	-7.3	3.2	-6.5	2.4	0.443
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	-5.5	-0.6	-4.9	-12.7	3.0	-11.5	1.7	0.225
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	0.1	-1.5	1.6	-10.2	13.4	-8.3	11.5	0.789
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	-4.7	-0.7	-4.0	-13.7	5.8	-12.2	4.2
Rating of all care received after leaving the hospital		9-10	-0.4	-1.4	0.9	-9.6	11.5	-7.9	9.8	0.933
		7-8	-2.1	-0.3	-1.7	-11.0	7.6	-9.5	6.1	
		0-6	2.5	1.7	0.8	-8.0	9.6	-6.6	8.2	

Note: See the first page of this appendix for data sources and more information.

Exhibit L.14: Beneficiary Survey Outcomes: Hospitals, Difference Between BPCI Advanced and Comparison Outcomes Among Hispanic Respondents Relative to Non-Hispanic White Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	Difference (Hispanic) (pp)	Difference (White) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	-2.0	-1.6	-0.4	-10.0	9.2	-8.4	7.6	0.983
		Maintained	1.3	0.8	0.6	-5.5	6.6	-4.5	5.6	
		Declined	0.6	0.8	-0.2	-8.6	8.2	-7.2	6.9	
	Planning regular tasks	Improvement	-7.7	-0.8	-6.9	-16.0	2.3	-14.5	0.8	0.289
		Maintained	1.4	1.4	0.0	-5.6	5.6	-4.7	4.7	
		Declined	6.3	-0.6	6.9	-2.0	15.7	-0.6	14.3	
	Use of mobility device	Improvement	3.8	0.0	3.8	-5.3	12.9	-3.8	11.4	0.345
		Maintained	1.5	-1.5	3.0	-3.1	9.1	-2.1	8.1	
		Declined	-5.3	1.5	-6.8	-16.3	2.8	-14.8	1.2	
	Walking without rest	Improvement	1.3	-0.7	2.0	-8.9	13.0	-7.1	11.2	0.401
		Maintained	3.0	-0.5	3.5	-4.5	11.4	-3.2	10.2	
		Declined	-4.3	1.2	-5.5	-14.6	3.6	-13.2	2.1	
	Going up or down stairs	Improvement	-3.2	-3.7	0.5	-10.3	11.3	-8.6	9.5	0.578
		Maintained	5.3	1.7	3.6	-4.6	11.8	-3.2	10.5	
		Declined	-2.0	2.0	-4.1	-13.9	5.7	-12.3	4.2	
	Physical/emotional problems limiting social activities	Improvement	-1.0	-2.2	1.1	-9.3	11.6	-7.6	9.9	0.638
		Maintained	2.9	0.2	2.7	-5.0	10.3	-3.7	9.1	
		Declined	-1.9	1.9	-3.8	-13.1	5.5	-11.6	4.0	
Pain limiting regular activities	Improvement	-8.7	-2.0	-6.7	-17.2	3.8	-15.5	2.1	0.186	
	Maintained	9.1	0.3	8.8	-0.7	18.3	0.9	16.8		
	Declined	-0.4	1.8	-2.2	-11.3	6.9	-9.8	5.5		

Outcome	Response Category	Difference (Hispanic) (pp)	Difference (White) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	-3.1	0.6	-3.7	-9.8	2.4	-8.8	1.4	0.237
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	-7.4	-1.9	-5.4	-13.7	2.8	-12.4	1.5	0.198
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	-2.7	-0.2	-2.4	-7.8	3.0	-7.0	2.1	0.382
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	-2.7	0.4	-3.1	-8.5	2.3	-7.6	1.5	0.263
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	-0.2	-0.4	0.2	-5.6	6.0	-4.6	5.1	0.938
	Able to manage your health needs since returning home	Strongly Agree or Agree	-3.1	1.5	-4.6	-8.9	-0.2	-8.2	-0.9	0.040
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	-4.6	-0.6	-4.0	-10.5	2.6	-9.5	1.5	0.235
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	-8.3	-1.5	-6.7	-17.7	4.2	-16.0	2.5	0.228
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	-3.8	-0.7	-3.1	-12.9	6.8	-11.3	5.2	0.542
	Rating of all care received after leaving the hospital	9-10	-2.8	-1.4	-1.4	-11.5	8.7	-9.9	7.0	0.935
		7-8	-0.1	-0.3	0.2	-9.0	9.4	-7.6	7.9	
0-6		2.9	1.7	1.2	-5.9	8.4	-4.8	7.2		

Note: See the first page of this appendix for data sources and more information.

Exhibit L.15: Beneficiary Survey Outcomes: Hospitals, Difference Between BPCI Advanced and Comparison Outcomes Among Dual-Eligible Respondents Relative to Nondual-Eligible Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	Difference (Dual) (pp)	Difference (Nondual) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	-2.9	-0.6	-2.3	-9.2	4.6	-8.1	3.5	0.809
		Maintained	0.6	0.1	0.5	-3.7	4.7	-3.1	4.0	
		Declined	2.2	0.4	1.8	-5.3	8.9	-4.1	7.7	
	Planning regular tasks	Improvement	-4.7	0.0	-4.7	-11.6	2.2	-10.5	1.1	0.143
		Maintained	-0.8	1.0	-1.9	-6.2	2.5	-5.5	1.8	
		Declined	5.5	-1.1	6.6	-0.1	13.2	1.0	12.2	
	Use of mobility device	Improvement	-3.7	0.3	-4.0	-11.2	3.3	-10.0	2.1	0.384
		Maintained	1.9	-1.1	3.0	-1.9	8.0	-1.1	7.2	
		Declined	1.7	0.8	0.9	-6.2	8.1	-5.0	6.9	
	Walking without rest	Improvement	-2.5	0.0	-2.5	-9.8	4.8	-8.7	3.6	0.523
		Maintained	-1.5	0.0	-1.6	-8.2	5.0	-7.1	4.0	
		Declined	4.1	-0.1	4.1	-3.0	11.2	-1.8	10.1	
	Going up or down stairs	Improvement	-9.3	-1.4	-7.9	-15.7	-0.2	-14.4	-1.5	0.084
		Maintained	2.2	0.8	1.4	-5.5	8.3	-4.4	7.2	
		Declined	7.1	0.6	6.5	-0.2	13.2	0.9	12.1	
	Physical/emotional problems limiting social activities	Improvement	-3.0	-1.9	-1.1	-9.4	7.1	-8.1	5.8	0.959
		Maintained	1.7	0.9	0.8	-5.9	7.4	-4.8	6.4	
		Declined	1.4	1.0	0.4	-6.8	7.5	-5.6	6.4	
Pain limiting regular activities	Improvement	-3.3	-2.3	-0.9	-9.5	7.6	-8.1	6.2	0.521	
	Maintained	4.9	0.8	4.1	-3.8	12.0	-2.5	10.7		
	Declined	-1.6	1.5	-3.2	-10.4	4.1	-9.2	2.9		

Outcome	Response Category	Difference (Dual) (pp)	Difference (Nondual) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value	
Care Experience	Felt prepared to leave the hospital	Very or somewhat	1.9	-0.4	2.2	-2.2	6.7	-1.5	5.9	0.320
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	-1.7	-3.1	1.5	-4.4	7.3	-3.4	6.3	0.625
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	-0.1	-0.5	0.4	-4.5	5.2	-3.7	4.4	0.880
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	-1.8	-0.1	-1.7	-6.4	3.1	-5.7	2.3	0.486
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	0.0	-0.8	0.8	-4.0	5.5	-3.2	4.8	0.749
	Able to manage your health needs since returning home	Strongly Agree or Agree	0.2	0.7	-0.5	-4.5	3.4	-3.8	2.8	0.798
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	-3.6	-1.8	-1.8	-8.0	4.5	-7.0	3.5	0.583
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	-3.5	-2.8	-0.7	-9.3	8.0	-7.9	6.6	0.881
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	-1.1	-0.3	-0.8	-8.2	6.6	-7.0	5.4	0.830
	Rating of all care received after leaving the hospital	9-10	-6.2	-1.2	-5.0	-13.3	3.3	-11.9	2.0	0.484
		7-8	3.1	-0.6	3.7	-3.7	11.2	-2.5	10.0	
0-6		3.0	1.8	1.2	-5.2	7.7	-4.2	6.6		

Note: See the first page of this appendix for data sources and more information.

Exhibit L.16: Beneficiary Survey Outcomes: Hospitals, Difference Between BPCI Advanced and Comparison Outcomes Among Respondents Living in High-ADI vs. Non-High-ADI ZIP Codes, Wave 2 (July and August 2021)

Outcome		Response Category	Difference (Top 20% ADI) (pp)	Difference (Lower 80% ADI) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	1.8	-1.9	3.7	-3.4	10.8	-2.2	9.7	0.083
		Maintained	-4.9	1.3	-6.1	-11.5	-0.7	-10.6	-1.6	
		Declined	3.0	0.7	2.4	-4.2	9.0	-3.2	7.9	
	Planning regular tasks	Improvement	-2.8	-0.6	-2.2	-9.2	4.8	-8.1	3.7	0.830
		Maintained	1.1	0.4	0.7	-4.6	6.0	-3.7	5.1	
		Declined	1.6	0.1	1.5	-5.1	8.0	-4.0	7.0	
	Use of mobility device	Improvement	0.6	-0.4	1.0	-6.2	8.3	-5.0	7.1	0.961
		Maintained	-0.7	-0.5	-0.2	-5.5	5.2	-4.7	4.3	
		Declined	0.1	0.9	-0.9	-8.1	6.4	-7.0	5.2	
	Walking without rest	Improvement	0.7	-0.4	1.1	-6.2	8.5	-5.1	7.3	0.098
		Maintained	4.4	-1.4	5.8	-0.7	12.3	0.3	11.2	
		Declined	-5.1	1.8	-6.9	-14.0	0.3	-12.9	-0.9	
	Going up or down stairs	Improvement	-6.3	-2.9	-3.4	-11.0	4.3	-9.8	3.0	0.469
		Maintained	5.2	1.0	4.2	-2.8	11.1	-1.6	10.0	
		Declined	1.1	1.9	-0.8	-8.3	6.7	-7.1	5.5	
	Physical/emotional problems limiting social activities	Improvement	-0.6	-2.4	1.8	-6.9	10.6	-5.5	9.2	0.429
		Maintained	3.4	0.1	3.2	-4.7	11.2	-3.4	9.9	
		Declined	-2.8	2.3	-5.1	-13.0	2.9	-11.7	1.6	
	Pain limiting regular activities	Improvement	-0.4	-3.0	2.7	-6.2	11.6	-4.8	10.1	0.405
		Maintained	3.9	1.1	2.8	-6.1	11.6	-4.6	10.2	
		Declined	-3.5	1.9	-5.4	-13.4	2.5	-12.1	1.2	

Outcome		Response Category	Difference (Top 20% ADI) (pp)	Difference (Lower 80% ADI) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	-1.3	0.3	-1.6	-6.6	3.4	-5.8	2.6	0.530
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	-2.8	-2.6	-0.2	-7.7	7.3	-6.4	6.1	0.962
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	-4.6	0.5	-5.1	-11.3	1.1	-10.3	0.1	0.106
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	-4.1	0.5	-4.5	-10.8	1.8	-9.8	0.7	0.158
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	-3.0	0.0	-3.0	-9.0	2.9	-8.0	1.9	0.316
	Able to manage your health needs since returning home	Strongly Agree or Agree	-0.2	1.0	-1.2	-5.6	3.3	-4.9	2.6	0.606
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	-3.9	-1.8	-2.0	-9.2	5.1	-8.0	3.9	0.574
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	-4.7	-1.9	-2.8	-13.6	8.0	-11.9	6.2	0.609
Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	-5.1	0.1	-5.2	-13.9	3.5	-12.5	2.1	0.244
	Rating of all care received after leaving the hospital	9-10	-5.4	-1.1	-4.4	-13.8	5.1	-12.3	3.6	0.421
		7-8	-1.1	0.1	-1.2	-9.1	6.7	-7.8	5.4	
0-6	6.5	0.9	5.5	-2.8	13.8	-1.4	12.5			

Note: See the first page of this appendix for data sources and more information.

Exhibit L.17: Beneficiary Survey Outcomes: Hospitals, Difference Between BPCI Advanced and Comparison Outcomes Among Rural vs. Non-Rural Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	Difference (Rural) (pp)	Difference (Non-Rural) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	4.6	-2.0	6.7	-0.2	13.5	0.9	12.4	0.126
		Maintained	-2.9	0.8	-3.7	-8.8	1.5	-8.0	0.7	
		Declined	-1.7	1.3	-3.0	-9.7	3.7	-8.6	2.6	
	Planning regular tasks	Improvement	0.7	-1.3	2.0	-4.8	8.8	-3.7	7.7	0.852
		Maintained	0.3	0.9	-0.7	-5.7	4.4	-4.9	3.6	
		Declined	-1.0	0.3	-1.3	-7.8	5.2	-6.7	4.1	
	Use of mobility device	Improvement	2.4	-0.5	2.8	-3.1	8.7	-2.1	7.8	0.599
		Maintained	-0.2	-0.4	0.1	-4.9	5.1	-4.1	4.3	
		Declined	-2.1	0.8	-3.0	-9.4	3.4	-8.3	2.4	
	Walking without rest	Improvement	-2.0	0.3	-2.3	-8.4	3.8	-7.4	2.9	0.074
		Maintained	4.7	-1.6	6.3	0.9	11.7	1.7	10.8	
		Declined	-2.7	1.4	-4.0	-10.3	2.3	-9.3	1.3	
	Going up or down stairs	Improvement	-5.8	-3.0	-2.8	-9.3	3.7	-8.2	2.7	0.519
		Maintained	0.8	1.8	-1.0	-6.9	4.9	-6.0	3.9	
		Declined	5.0	1.2	3.8	-2.8	10.4	-1.7	9.4	
	Physical/emotional problems limiting social activities	Improvement	1.9	-2.8	4.7	-3.5	12.9	-2.2	11.6	0.128
		Maintained	3.5	0.6	2.9	-4.2	10.0	-3.1	8.8	
		Declined	-5.4	2.2	-7.6	-15.0	-0.3	-13.8	-1.4	
	Pain limiting regular activities	Improvement	0.7	-3.7	4.4	-3.5	12.2	-2.2	10.9	0.478
		Maintained	-0.9	3.1	-4.0	-11.7	3.7	-10.5	2.5	
		Declined	0.2	0.6	-0.4	-8.0	7.3	-6.8	6.1	

Outcome		Response Category	Difference (Rural) (pp)	Difference (Non-Rural) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	-1.6	0.6	-2.2	-7.2	2.8	-6.4	2.0	0.387
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	-4.1	-2.0	-2.1	-8.4	4.2	-7.4	3.2	0.515
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	-3.3	0.5	-3.8	-9.4	1.8	-8.5	0.9	0.181
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	-2.7	0.0	-2.7	-8.2	2.8	-7.3	1.9	0.336
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	-2.4	0.1	-2.5	-8.3	3.4	-7.4	2.4	0.406
	Able to manage your health needs since returning home	Strongly Agree or Agree	-1.8	1.4	-3.1	-7.5	1.2	-6.8	0.5	0.160
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	-4.5	-1.6	-2.9	-9.5	3.6	-8.4	2.6	0.383
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	-4.5	-2.9	-1.6	-12.3	9.0	-10.5	7.3	0.763
	Satisfaction with Care	Overall satisfaction with recovery	Quite a bit or Extreme	-0.5	-1.0	0.5	-7.2	8.2	-6.0	7.0
Rating of all care received after leaving the hospital		9-10	-1.2	-2.5	1.3	-7.8	10.4	-6.3	8.9	0.960
		7-8	-0.3	0.5	-0.8	-8.7	7.0	-7.4	5.8	
0-6	1.5	2.0	-0.5	-6.8	5.8	-5.8	4.8			

Note: See the first page of this appendix for data sources and more information.

Exhibit L.18: Beneficiary Survey Outcomes: PGP, Difference Between BPCI Advanced and Comparison Outcomes Among Rural vs. Non-Rural Respondents, Wave 2 (July and August 2021)

Outcome		Response Category	Difference (Rural) (pp)	Difference (Non-Rural) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Change in Functional Status	Bathing, dressing, using the toilet, or eating	Improvement	0.5	-2.9	3.4	-3.1	10.0	-2.1	8.9	0.362
		Maintained	1.6	0.6	1.0	-3.7	5.7	-2.9	4.9	
		Declined	-2.1	2.3	-4.4	-10.5	1.7	-9.5	0.7	
	Planning regular tasks	Improvement	0.0	0.1	-0.1	-6.0	5.8	-5.0	4.9	0.725
		Maintained	-0.3	-2.2	1.9	-3.0	6.7	-2.2	5.9	
		Declined	0.3	2.1	-1.8	-8.0	4.4	-7.0	3.4	
	Use of mobility device	Improvement	0.2	-1.0	1.2	-4.7	7.1	-3.8	6.1	0.435
		Maintained	0.0	-2.4	2.3	-2.4	7.1	-1.6	6.3	
		Declined	-0.2	3.3	-3.5	-9.5	2.4	-8.5	1.4	
	Walking without rest	Improvement	-1.0	-2.2	1.2	-5.6	8.0	-4.5	6.9	0.765
		Maintained	0.5	-0.6	1.1	-4.9	7.2	-3.9	6.2	
		Declined	0.5	2.9	-2.3	-8.6	4.0	-7.6	2.9	
	Going up or down stairs	Improvement	2.8	-1.7	4.4	-2.3	11.2	-1.2	10.1	0.431
		Maintained	-2.2	-0.5	-1.6	-7.8	4.5	-6.8	3.5	
		Declined	-0.6	2.2	-2.8	-9.1	3.5	-8.1	2.5	
	Physical/emotional problems limiting social activities	Improvement	-1.4	-3.6	2.2	-5.6	10.0	-4.3	8.8	0.654
		Maintained	2.0	0.9	1.1	-5.2	7.4	-4.2	6.4	
		Declined	-0.6	2.7	-3.3	-10.3	3.7	-9.2	2.6	
	Pain limiting regular activities	Improvement	6.2	2.7	3.5	-4.1	11.1	-2.9	9.9	0.650
		Maintained	-3.6	-2.4	-1.2	-8.2	5.9	-7.1	4.7	
		Declined	-2.5	-0.2	-2.3	-9.2	4.5	-8.0	3.4	

Outcome		Response Category	Difference (Rural) (pp)	Difference (Non-Rural) (pp)	Relative Difference (pp)	95% LCI	95% UCI	90% LCI	90% UCI	p-value
Care Experience	Felt prepared to leave the hospital	Very or somewhat	2.6	-1.9	4.5	-0.1	9.1	0.6	8.4	0.057
	Medical staff took your preferences into account in deciding what health care services you should have after you left the hospital	Strongly Agree or Agree	0.2	0.2	0.0	-5.6	5.5	-4.7	4.6	0.994
	Good understanding of how to take care of self before going home	Strongly Agree or Agree	0.6	-0.6	1.2	-3.2	5.6	-2.5	4.9	0.592
	Medical staff clearly explained how to take medications before going home	Strongly Agree or Agree	-0.2	-0.1	-0.1	-5.1	4.9	-4.3	4.1	0.970
	Medical staff clearly explained what follow-up appointments or treatments would be needed before going home	Strongly Agree or Agree	1.9	-0.9	2.7	-2.0	7.5	-1.3	6.7	0.262
	Able to manage your health needs since returning home	Strongly Agree or Agree	1.4	0.2	1.2	-2.5	5.0	-1.9	4.4	0.521
	Medical staff talked with you about whether you would have the help you needed when you got home	Yes	1.3	1.3	0.0	-5.3	5.3	-4.5	4.5	0.998
	If you needed help at home to manage your health, medical staff arranged services for you at home to help manage your health	Yes	1.7	7.0	-5.2	-15.1	4.6	-13.5	3.0	0.296
	Overall satisfaction with recovery	Quite a bit or Extreme	-1.1	1.3	-2.3	-9.6	4.9	-8.4	3.7	0.525
Satisfaction with Care	Rating of all care received after leaving the hospital	9-10	7.1	-1.5	8.6	0.8	16.4	2.1	15.1	0.053
		7-8	-7.9	0.2	-8.0	-14.9	-1.2	-13.8	-2.3	
		0-6	0.8	1.4	-0.6	-6.3	5.2	-5.4	4.2	

Note: See the first page of this appendix for data sources and more information.

Appendix M: Beneficiary Survey Instrument



Health Care Experience Survey

We are interested in the quality of care you received at the hospital listed in the cover letter, and how your recovery has been going. We understand that this was probably a difficult time for you and your family. We appreciate you taking the time to tell us about your health care experiences. Please be assured that all responses are confidential.

There are four sections of this survey. The first section asks about *how you were feeling just before* you went to the hospital listed in the cover letter. The second section asks about *how you are currently feeling*. The third section asks about *your experience and satisfaction* with the hospital and any other places where you received care after you left the hospital. The last questions in the survey are about you.

Instructions:

- Please read each question carefully and respond by marking the box next to the response that most closely represents your opinion.
- Please mark only one box for each question, unless it tells you to “Choose all that apply.”
- Many people use a PENCIL in case they want to change their answers. Please erase cleanly or white out any marks you wish to change. Please do NOT use a felt tip pen.
- Please do not make any stray marks on the form.

1. First, please indicate who is completing this survey.

- Person named in the cover letter
- Person named in the cover letter, with help from a family member, friend or caregiver
- A family member, friend, or caregiver of the person named in the cover letter
- Someone else who is not a family member, friend, or caregiver of the person named in the cover letter
- If the person to whom this was mailed cannot complete the survey, and there is no one else who can do it for him or her**, please mark this response and return the blank survey to Abt Associates, P.O. Box 5720, Hopkins, MN 55343 using the postage-paid envelope provided.

Section 1. Before the Hospital

We would like to know how you were doing before you went to the hospital listed in the cover letter. Please think about your overall health and all of your medical needs at that time, and not just the reason you went to the hospital listed in your cover letter.

2. Thinking about the week before you went to the hospital, how much help did you need from another person with *bathing, dressing, using the toilet, or eating*?
 - No help needed from another person
 - Some help needed from another person
 - Complete help needed from another person
 - Don't know/Don't remember

3. Thinking about the week before you went to the hospital, how much help did you need from another person with *planning regular tasks*, such as making a grocery list or remembering to take medication?
 - No help needed from another person
 - Some help needed from another person
 - Complete help needed from another person
 - Don't know/Don't remember

4. Thinking about the week before you went to the hospital, what best describes your *use of a mobility device* such as a wheelchair, scooter, walker, or cane?
 - I never used a mobility device
 - I sometimes used a mobility device
 - I always used a mobility device
 - Don't know/Don't remember

5. Thinking about the week before you went to the hospital, what best describes your ability to *walk by yourself* without resting? That is, without the help of another person or the help of a mobility device.
 - I could walk several blocks by myself without resting or using a mobility device
 - I could walk one block by myself without resting or using a mobility device
 - I could walk from one room to another by myself without resting or using a mobility device
 - I was not able to walk by myself without resting or using a mobility device
 - Don't know/Don't remember

6. Thinking about the week before you went to the hospital, how much difficulty did you have *walking up or down 12 stairs*?
- I had no difficulty walking up or down 12 stairs
 - I had some difficulty walking up or down 12 stairs
 - I had a lot of difficulty walking up or down 12 stairs
 - I was not able to walk up or down 12 stairs
 - Don't know/Don't remember
7. Thinking about the week before you went to the hospital, how often did your *physical health or emotional problems* interfere with your social activities (like visiting friends, relatives, etc.)?
- All of the time
 - Most of the time
 - Some of the time
 - A little of the time
 - None of the time
 - Don't know/Don't remember
8. Thinking about the week before you went to the hospital, how much did *pain* interfere with your normal activities?
- All of the time
 - Most of the time
 - Some of the time
 - A little of the time
 - None of the time
 - Don't know/Don't remember

Section 2. After the Hospital

It has been a few months since your hospital care and we would like to know how you are doing *today*. Please think about your overall health and all of your medical needs, and not just the reason you went to the hospital listed in your cover letter.

9. How much help do you currently need from another person with *bathing, dressing, using the toilet, or eating*?
- No help needed from another person
 - Some help needed from another person
 - Complete help needed from another person
 - Don't know/Don't remember

10. How much help do you currently need from another person with *planning regular tasks*, such as making a grocery list or remembering to take medication?
- No help needed from another person
 - Some help needed from another person
 - Complete help needed from another person
 - Don't know/Don't remember
11. What currently best describes your *use of a mobility device* such as a wheelchair, scooter, walker, or cane?
- I never use a mobility device
 - I sometimes use a mobility device
 - I always use a mobility device
 - Don't know/Don't remember
12. What best describes your current ability to *walk by yourself* without resting? That is, without the help of another person or the help of a mobility device.
- I can walk several blocks by myself without resting or using a mobility device
 - I can walk one block by myself without resting or using a mobility device
 - I can walk from one room to another by myself without resting or using a mobility device
 - I am not able to walk by myself without resting or using a mobility device
 - Don't know/Don't remember
13. Do you currently have difficulty *walking up or down 12 stairs*?
- I have no difficulty walking up or down 12 stairs
 - I have some difficulty walking up or down 12 stairs
 - I have a lot of difficulty walking up or down 12 stairs
 - I am not able to walk up or down 12 stairs
 - Don't know/Don't remember
14. How often does your *physical health or emotional problems* currently interfere with your social activities (like visiting friends, relatives, etc.)?
- All of the time
 - Most of the time
 - Some of the time
 - A little of the time
 - None of the time
 - Don't know/Don't remember

15. How much does *pain* currently interfere with your normal activities?

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time
- Don't know/Don't remember

16. Overall, since you left the hospital, how satisfied are you *with your recovery*?

- Not at all satisfied
- Slightly satisfied
- Moderately satisfied
- Quite a bit satisfied
- Extremely satisfied
- Don't know/Don't remember

Section 3. Health Care Experiences

Now, we would like to hear about your experiences while you were at the hospital listed in the cover letter and any other place where you received care after the hospital.

In the following questions, the term “medical staff” means doctors, nurses, physical or occupational therapists and any other medical professionals who helped take care of you at the hospital and afterwards, in other facilities or at home. For example, after leaving the hospital you may have received care from medical staff in a nursing home, rehabilitation facility, assisted living facility, a doctor's office, or at home.

We'd like to learn about your experience as you were leaving the hospital in the cover letter.

17. Looking back to the time you left the hospital, overall, *how prepared did you feel to leave*?

- Unprepared
- Moderately prepared
- Very prepared
- Don't know/Don't remember

Thinking about when you left the hospital listed in the cover letter, *how much do you agree or disagree with the following statement?*

18. The medical staff took your preferences and those of your family or your caregiver into account in deciding what health care services you should have after you left the hospital.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree
- Don't Know/Don't Remember
- Not Applicable

19. Where do you reside now?

- At my own home, in someone else's home, or in an assisted living facility (**Continue with the next section by following the arrow**)
- In a rehabilitation center, nursing home, or other health care facility (**Skip to Question 26 located on Page 6**)

Thinking about when you left the hospital listed in the cover letter, *how much do you agree or disagree with the following statements?*

20. Before you prepared to go home (or to someone else's home, or to an assisted living facility), you and your family or caregiver had a *good understanding of how to take care of yourself*.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree
- Don't Know/Don't Remember
- Not Applicable

21. Before you prepared to go home (or to someone else's home, or to an assisted living facility), *medical staff clearly explained how to take your medications*.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree
- Don't Know/Don't Remember
- Not Applicable, did not receive new medications

22. Before you prepared to go home (or to someone else's home, or to an assisted living facility), *medical staff clearly explained what follow-up appointments or treatments would be needed.*
- Strongly Disagree
 - Disagree
 - Agree
 - Strongly Agree
 - Don't Know/Don't Remember
 - Not Applicable
23. Overall, since you returned home (or to someone else's home, or to an assisted living facility), *you and your caregivers have been able to manage your health needs.*
- Strongly Disagree
 - Disagree
 - Agree
 - Strongly Agree
 - Don't Know/Don't Remember
 - Not applicable
24. Before you prepared to go home (or to someone else's home, or to an assisted living facility), *did doctors, nurses, or other staff talk with you about whether you would have the help you needed when you got home?*
- Yes
 - No
 - Don't Know/Don't Remember
 - Not applicable
25. Since leaving the hospital, if you needed help at home to manage your health, *did medical staff arrange services for you at home to help manage your health?*
- Yes
 - No
 - Don't Know/Don't Remember
 - Not Applicable, did not require help at home

26. Now we would like you to think about all of the healthcare you received *after* leaving the hospital. Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate *all* of your health care *after* leaving the hospital?

- | | | |
|---------------------------------------|---------------------------------------|--|
| 0 (Worst possible) | <input checked="" type="checkbox"/> 4 | <input checked="" type="checkbox"/> 8 |
| <input checked="" type="checkbox"/> 1 | <input checked="" type="checkbox"/> 5 | <input checked="" type="checkbox"/> 9 |
| <input checked="" type="checkbox"/> 2 | <input checked="" type="checkbox"/> 6 | <input checked="" type="checkbox"/> 10 (Best possible) |
| <input checked="" type="checkbox"/> 3 | <input checked="" type="checkbox"/> 7 | |

Section 4. Personal Characteristics

27. What is the highest grade or level of school that you completed?

- 8th grade or less
- Some high school, but did not graduate
- High school graduate or GED
- Some college or 2-year (associate’s) degree
- 4-year (bachelor’s) college degree or equivalent
- More than 4-year college degree (such as a master’s or doctoral degree)

28. We may like to call you in the future for a 5 to 10 minute follow-up regarding your care experience. Participation is completely voluntary. May we have your permission to call you for a brief survey in the future?

- Yes, you may contact me for another brief survey in the future
- No, you may not contact me for another brief survey in the future

IF YOU’D LIKE TO BE CONTACTED IN THE FUTURE

29. So that we have the most up to date contact information for you in the future, please provide the best telephone number to reach you:

Telephone number with area code:
 _____ - _____ - _____

Thank you for completing the survey!
Please mail it back in the enclosed postage-paid envelope
Abt Associates, P.O. Box 5720, Hopkins, MN 55343