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## Episode-based Resource Use Measures

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### ***Episode-of-Care for Treatment in Newly Diagnosed Cases of Breast Cancer over a 15-month Period***

*This measure was developed by the American Board of Medical Specialties Research and Education Foundation for the High Value Health Care Project: Characterizing Episodes and Costs of Care—funded by the Robert Wood Johnson Foundation under grant 63609.*

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## ***Episode-of-Care for Treatment in Newly Diagnosed Cases of Breast Cancer over a 15-month Period***

### **Measure Description**

Resource use and costs associated with management of newly diagnosed cases of breast cancer over an 18-month period, three months preceding the diagnosis date and 15 months following the initial diagnosis. Patients are included in the cohort based on identification of new diagnoses of breast cancer using a validated algorithm. Women with a diagnosis code for breast cancer are identified during the measurement year and stratified into high likelihood cases if they have surgical or procedure claims related to breast cancer (mastectomy, lumpectomy, radiation treatment) or have more than two visits with a primary diagnosis of breast cancer. Women are identified as non-high likelihood cases if they do not meet these criteria. These women are included as potential cases if they meet certain criteria related to surgery, multiple claims, other cancers and secondary breast cancer. Patients with a previous diagnosis of breast cancer, metastatic disease and non-melanoma non-skin cancer are excluded. Eligible patients are followed for 15 months following the initial date of their diagnosis during the measurement period and data from the three months preceding the entry date are also captured for identification of breast cancer-related care. Patients are stratified into four mutually exclusive groups: 1) Chemotherapy, with trastuzumab; 2) chemotherapy, no trastuzumab; 3) no chemotherapy; and 4) neoadjuvant chemotherapy. Overall breast cancer-related costs and resource use are calculated for each stratum. Costs of care are calculated at a system level due to the inability to measure important case-mix factors such as stage of disease and estrogen and progesterone receptor status in current administrative datasets.

### **Required Data Elements**

Administrative claims data

### **Calculation**

For patients meeting inclusion criteria, determine breast cancer-related resource use and costs over an 18-month period around the initial diagnosis of breast cancer. Prices from a standard price list will be applied to the breast cancer-related resource use to estimate the costs of the episode of care related to breast cancer. Resources will be defined for ten categories: 1) inpatient facility; 2) outpatient facility; 3) evaluation and management; 4) procedures; 5) imaging; 6) tests; 7) DME; 8) other drugs and services; 9) medications; and 10) other. For inpatient facility costs, the standard cost is based on a per diem cost for a DRG and will be multiplied by the length of stay for the index event. For each of the other resource use categories, standardized prices will be available for each of the unique codes available under the other four categories.

## Episode Definition

Breast cancer-related cost of care over an 18-month period.

## Rationale

The Institute of Medicine and AQA (formerly known as the Ambulatory Care Quality Alliance) have identified breast cancer as one of 20 conditions that should be considered priority areas in need of quality improvement based on its relevance to a significant volume of patients, its impact on those patients, and the perception of opportunity to significantly improve the quality and efficiency of related care. Breast cancer had also been previously identified as a priority area in other national initiatives including Health Resources and Services Administration's Health Disparities Collaboratives and the Quality Improvement Program at Centers for Medicare and Medicaid Services.<sup>1</sup> In addition, the costs of treatment for breast cancer patients can be very high in some cases – Medicare costs for beneficiaries with breast cancer range about \$20,000 over five years, with costs often highest during first year of treatment and during last year of life.<sup>2</sup> Furthermore, these costs can vary dramatically from one provider to the next as well as across regions because of variations in practice patterns.

This measure observes variation in resource use related to the treatment of breast cancer during the 15 months following diagnosis and the 3 months prior to diagnosis. The 15-month window post-diagnosis is intended to measure the resource use associated with a complete regimen of chemotherapy which often doesn't begin until 3 months after diagnosis, and the preceding 3-month window is intended to capture as much of the variation as possible in resource use associated with the diagnostic process.

Treatment decisions related to breast cancer care can vary widely, at least in part due to variance in patient preference, and the potential range of resource use associated with this decision can be very wide. To limit the noise and ensure measurement across more homogeneous patient groups, this measure is stratified through the identification of patients A) receiving neo-adjuvant chemotherapy, B) receiving other chemotherapy with trastuzumab, C) receiving other chemotherapy without trastuzumab, or D) not receiving chemotherapy. Because of this stratification, this measure requires no further risk adjustment.

Through administrative data we are unable to identify cancer stage at diagnosis, one of the key determinants of what are considered appropriate treatment patterns. Also, it cannot be assumed that two individually attributed physicians would have comparable distributions of cancer stage within a given measurement period (such that two physicians could be justifiably compared on the basis of the measure). Until this information is more readily available, this measure is designed to be attributed at the region level.

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<sup>1</sup> Priority Areas for National Action: Transforming Health Care Quality. Institute of Medicine. Karen Adams and Janet Corrigan Editors. March 10, 2003.

<sup>2</sup> Robin Yabroff. Journal of the National Cancer Institute, Apr, 2008 issue: qtd in Washington Post, April 29, 2008.

## Measures

- Breast cancer-related resource use / costs
  - Inpatient Facility
  - Outpatient facility
  - Evaluation and Management
  - Procedures
  - Imaging
  - Tests
  - DME
  - Other drugs and services
  - Exceptions / Unclassified
  - Other
  - Pharmacy

## Eligible Population

<b>Age</b>	No age restrictions on inclusion in the measure
<b>Enrollment Criteria</b>	Continuous medical and pharmacy benefit enrollment for at least one year preceding the measurement period and during the measurement period (30 months total), with no more than one gap in enrollment of more than 45 days during each year of continuous enrollment.
<b>Inclusion Criteria</b>	<p>Patients will be included in the measure if they meet the Nattinger <i>et al.</i> criteria for an incident case of breast cancer.<sup>3</sup> The criteria are summarized as follows:</p> <ol style="list-style-type: none"><li>1) Screening step - identify patients with at least one diagnosis code for breast cancer (<b>Table BCTx-A</b>) and one breast cancer-related procedure code (<b>Table BCTx-B</b>, Step 1).</li><li>2) High likelihood cases - Patients identified in the screening step are evaluated for identification of high likelihood cases. Patients identified as high likelihood cases must meet both A and B in the following criteria during the measurement period:<ol style="list-style-type: none"><li>A) Mastectomy claim (<b>Table BCTx-B</b>, Step 2)</li></ol></li></ol>

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<sup>3</sup> Nattinger AB, Laud PW, Bajorunaite R, Sparapani RA, Freeman JL. An algorithm for the use of Medicare claims data to identify women with incident breast cancer. HSR 2004; 39:1733-1749.

OR

Lumpectomy or partial mastectomy claim (**Table BCTx-B**, Step 2) AND  $\geq 1$  claim for radiotherapy (**Table BCTx-B**, Step 2) with breast cancer diagnosis (**Table BCTx-A**)

AND

B)  $\geq 2$  outpatient claims during measurement period with breast cancer as the primary diagnosis (**Table BCTx-A**)

- 3) Non-high likelihood cases - All patients identified in the screening step that do not meet the high likelihood case are evaluated as possible breast cancer cases. Four criteria are identified for each patient (Surgery, Single Claim, Other Cancer, Secondary Cancer to Breast). Patients are then defined as a breast cancer case if the combination of these four factors meet one of the following three definitions:

	Surgery	Single Claim	Other Cancer	2° Cancer to Breast
1	+	-	-	-
2	+	-	+	-
3	+	-	-	+

The following definitions are used to indicate positive values for the four criteria:

A) Surgery --  $\geq 1$  lumpectomy, partial mastectomy or mastectomy codes during measurement period (**Table BCTx-B**)

B) Single claim -- Patient with lumpectomy or partial mastectomy claim had only 1 month in which a claim contained primary breast cancer diagnosis (**Table BCTx-A**) or primary breast carcinoma in-situ diagnosis (**Table BCTx-B**)

C) Other cancer --  $\geq 1$  claim with a primary diagnosis for cancer other than breast cancer (**Table BCTx-B**)

D) Secondary cancer to breast --  $\geq 1$  claim of with

secondary cancer to breast diagnosis (**Table BCTx-B**)

4) Incident case -- patients identified as either a high likelihood case or that screen positive for breast cancer in step 3 are assessed for prior breast cancer to determine if they are incident cases. Patients are identified as prevalent cases and excluded from the measure if they meet the following criteria during the 12 months (can use as much prior data as available for evaluation of prevalent cases) preceding the measurement period:

A) At least one diagnosis code for breast cancer (**Table BCTx-A**) and one breast cancer-related procedure code (**Table BCTx-B**, Step 1)

OR

B) Diagnosis of prior history of breast cancer (**Table BCTx-B**)

**Exclusion Criteria**

In addition to the rules in the algorithm, patients with any of the following are excluded from the measure:

- 1) Males;
- 2) Metastatic disease, defined as a single E&M claim with a diagnosis code for metastatic disease (see **Table BCTx-C**); and
- 3) Other non-melanoma non-skin cancer diagnosis (see **Table BCTx-D**)

**Table BCTx-A: Breast cancer diagnosis**

Description	ICD-9
Malignant neoplasm of female breast	174.x

These ICD-9 codes, present in any diagnostic field, will be used to identify breast cancer patients during the measurement period, regardless of corresponding CPT and UB revenue codes.

**Table BCTx-B: Diagnosis and procedure codes for identification of incident breast cancer cases**

Description	Step(s)	ICD-9	CPT
Biopsy	1	85.1x	19000, 19001, 19101, 19110, 19112
Lumpectomy	1; 2; 3	85.20, 85.21	19120, 19125, 19126
Partial mastectomy	1; 2; 3	85.22, 85.23	19160, 19162
Lymph node dissection	1	40.3	38740, 38745, 38525
Mastectomy	1; 2; 3	85.33 - 85.48	19180-19255 (Include these additional codes for pre-2007 data 19140, 19160, 19162, 19180, 19182, 19200, 19220, 19240,
Radiation therapy	2	92.2x	77400-77499 77520-77525 77750-77799
Breast carcinoma in situ	3	233.0	
Other cancer	3	140-173.9 175-195.8 197-199.1 (not 198.2, 198.81) 200-208.91 230-234.9 (not 233.0, 232.5) 235-239.9 (not 238.3, 239.3)	
Secondary cancer to breast	3	198.2, 198.81	
History of breast cancer	4	V10.3	

**Table BCTx-C: Metastatic disease**

<b>Description</b>	<b>ICD-9</b>
Secondary and unspecified malignant neoplasm of lymph nodes	196.x
Secondary malignant neoplasm of respiratory and digestive systems	197.x
Secondary and malignant neoplasm of other specified sites	198.x

These codes, if appearing anywhere on 1 or more E&M claims during the 12 months preceding a potential trigger claim, will be used to identify patients to be excluded from the measure's denominator.

**Table BCTx-D: Other non-melanoma, non-skin cancer diagnoses**

<b>Description</b>	<b>ICD-9</b>
Malignant neoplasms of lip, oral cavity, and pharynx	140.x – 149.x
Malignant neoplasm of digestive organs and peritoneum	150.x – 159.x
Malignant neoplasm of respiratory and intrathoracic organs	160.x – 165.x
Malignant neoplasm of bone and articular cartilage	170.x
Malignant neoplasm of connective and other soft tissue	171.x
Kaposi's sarcoma	176.x
Malignant neoplasm of genitourinary organs	179.x – 184.x; 188.x – 189.x
Malignant neoplasm of other and unspecified site	190.x – 199.x
Malignant neoplasm of lymphatic and hematopoietic tissue	200.x – 208.x

These codes, if appearing anywhere on a claim during the 12 months preceding a potential trigger claim, will be used to identify patients to be excluded from the measure's denominator.

**Table BCTx-E: Codes to identify breast cancer related evaluation and management codes**

Description	ICD-9
Malignant neoplasm of female breast	174.x
Nonspecific abnormal findings on radiologic and other examination of body structure, breast	793.8
Mastodynia (breast pain)	611.71
Lump or mass in breast	611.72
Signs and symptoms in breast, Other	611.79
Dermatitis	692.9, 691.8

**AND**

Description	CPT Codes
Office or Other Outpatient Services	99201–99215
Hospital Observation Services	99217–99220
Hospital Inpatient Services	99221–99239
Consultations	99241–99255, 99261–99263, 99271–99275
Critical Care and Intensive Care Services	99289–99298
Nursing Facility, Domiciliary and Home Services	99301–99350
Case Management Services and Care Plan Oversight Services	99361–99380
Preventive Medicine Services	99385–99390, 99395–99405, 99410–99429
Other E&M Services	99450–99456, 99354–99357

These combinations of ICD-9 codes, present in any field, and CPT codes will be used to identify related services during the measurement period.

**Table BCTx-F: Pathology breast-cancer related claims**

Description	CPT
Surgical pathology – Level IV – Surgical pathology, gross and microscopic examination (Breast, biopsy, not requiring microscopic evaluation of surgical margins; Breast, reduction mammoplasty)	88305
Surgical pathology – Level V – Surgical pathology, gross	88307

and microscopic examination (Breast, excision of lesion, requiring microscopic evaluation of surgical margins; Breast, mastectomy – partial/simple)	
Surgical pathology – Level VI – Surgical pathology, gross and microscopic examination (Breast, mastectomy – with regional lymph nodes)	88309
Cytopathology, evaluation of fine needle aspirate; interpretation and report	88173
Pathology consultation during surgery; first tissue block, with frozen section(s), single specimen	88331
Immunohistochemistry (including tissue immunoperoxidase), each antibody	88342
Morphometric analysis, tumor immunohistochemistry (eg, Her-2/neu, estrogen receptor/progesterone receptor), quantitative or semiquantitative, each antibody; manual	88360
Morphometric analysis, tumor immunohistochemistry (eg, Her-2/neu, estrogen receptor/progesterone receptor), quantitative or semiquantitative, each antibody; using computer-assisted technology	88361

These CPT codes will be used to identify Breast Cancer-related services during the measurement period, regardless of corresponding ICD-9 codes

**Table BCTx-G: Imaging related codes for breast cancer-related care**

<b>Description</b>	<b>CPT</b>
Radiologic examination, chest, two views, frontal and lateral	71020
Stereotactic localization guidance for breast biopsy or needle placement (eg, for wire localization or for injection), each lesion, radiological supervision and interpretation	77031
Mammographic guidance for needle placement, breast (eg, for wire localization or for injection), each lesion, radiological supervision and interpretation	77032
Computer-aided detection (computer algorithm analysis of digital image data for lesion detection) with further physician review for interpretation, with or without digitization of film radiographic images; diagnostic mammography (List separately in addition to code for primary procedure)	77051
Computer-aided detection (computer algorithm analysis of digital image data for lesion detection) with further physician review for interpretation, with or without digitization of film radiographic images; screening mammography (List separately in addition to code for primary procedure)	77052
Mammary ductogram or galactogram, single duct, radiological supervision	77053

and interpretation	
Mammary ductogram or galactogram, multiple ducts, radiological supervision and interpretation	77054
Mammography; unilateral	77055
Mammography; bilateral	77056
Screening mammography, bilateral (2-view film study of each breast)	77057
Magnetic resonance imaging, breast, without and/or with contrast material(s); unilateral	77058
Magnetic resonance imaging, breast, without and/or with contrast material(s); bilateral	77059
Manual application of stress performed by physician for joint radiography, including contralateral joint if indicated	77071

These CPT codes will be used to identify Breast Cancer-related services during the measurement period, regardless of corresponding ICD-9 codes.

**Table BCTx-H: Radiation therapy related codes for breast cancer-related care**

Description	CPT
Therapeutic radiology treatment planning; simple	77261
Therapeutic radiology treatment planning; intermediate	77262
Therapeutic radiology treatment planning; complex	77263
Therapeutic radiology simulation-aided field setting; simple	77280
Therapeutic radiology simulation-aided field setting; intermediate	77285
Therapeutic radiology simulation-aided field setting; complex	77290
Therapeutic radiology simulation-aided field setting; 3-dimensional	77295
Unlisted procedure, therapeutic radiology clinical treatment planning	77299
Basic radiation dosimetry calculation, central axis depth dose calculation, TDF, NSD, gap calculation, off axis factor, tissue inhomogeneity factors, calculation of non-ionizing radiation surface and depth dose, as required during course of treatment, only when prescribed by the treating physician	77300
Intensity modulated radiotherapy plan, including dose-volume histograms for target and critical structure partial tolerance specifications	77301
Teletherapy, isodose plan (whether hand or computer calculated); simple (one or two parallel opposed unmodified ports directed to a single area of interest)	77305
Teletherapy, isodose plan (whether hand or computer calculated); intermediate (three or more treatment ports directed to a single area of interest)	77310
Teletherapy, isodose plan (whether hand or computer calculated); complex (mantle or inverted Y, tangential ports, the use of wedges, compensators, complex blocking, rotational beam, or special beam	77315

considerations)	
Special teletherapy port plan, particles, hemibody, total body	77321
Brachytherapy isodose plan; simple (calculation made from single plane, one to four sources/ribbon application, remote afterloading brachytherapy, 1 to 8 sources)	77326
Brachytherapy isodose plan; intermediate (multiplane dosage calculations, application involving 5 to 10 sources/ribbons, remote afterloading brachytherapy, 9 to 12 sources)	77327
Brachytherapy isodose plan; complex (multiplane isodose plan, volume implant calculations, over 10 sources/ribbons used, special spatial reconstruction, remote afterloading brachytherapy, over 12 sources)	77328
Special dosimetry (eg, TLD, microdosimetry) (specify), only when prescribed by the treating physician	77331
Treatment devices, design and construction; simple (simple block, simple bolus)	77332
Treatment devices, design and construction; intermediate (multiple blocks, stents, bite blocks, special bolus)	77333
Treatment devices, design and construction; complex (irregular blocks, special shields, compensators, wedges, molds or casts)	77334
Continuing medical physics consultation, including assessment of treatment parameters, quality assurance of dose delivery, and review of patient treatment documentation in support of the radiation oncologist, reported per week of therapy	77336
Special medical radiation physics consultation	77370
Radiation treatment delivery, stereotactic radiosurgery (SRS), complete course of treatment of cranial lesion(s) consisting of 1 session; multi-source Cobalt 60 based	77371
Radiation treatment delivery, stereotactic radiosurgery (SRS), complete course of treatment of cranial lesion(s) consisting of 1 session; linear accelerator based	77372
Stereotactic body radiation therapy, treatment delivery, per fraction to 1 or more lesions, including image guidance, entire course not to exceed 5 fractions	77373
Unlisted procedure, medical radiation physics, dosimetry and treatment devices, and special services	77399
Radiation treatment delivery, superficial and/or ortho voltage	77401
Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks; up to 5 MeV	77402
Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks; 6-10 MeV	77403
Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks; 11-19 MeV	77404
Radiation treatment delivery, single treatment area, single port or parallel opposed ports, simple blocks or no blocks; 20 MeV or greater	77406
Radiation treatment delivery, two separate treatment areas, three or	77407

more ports on a single treatment area, use of multiple blocks; up to 5 MeV	
Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks; 6-10 MeV	77408
Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks; 11-19 MeV	77409
Radiation treatment delivery, two separate treatment areas, three or more ports on a single treatment area, use of multiple blocks; 20 MeV or greater	77411
Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; up to 5 MeV	77412
Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 6-10 MeV	77413
Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 11-19 MeV	77414
Radiation treatment delivery, three or more separate treatment areas, custom blocking, tangential ports, wedges, rotational beam, compensators, electron beam; 20 MeV or greater	77416
Therapeutic radiology port film(s)	77417
Intensity modulated treatment delivery, single or multiple fields/arcs, via narrow spatially and temporally modulated beams, binary, dynamic MLC, per treatment session	77418
Stereoscopic X-ray guidance for localization of target volume for the delivery of radiation therapy	77421
High energy neutron radiation treatment delivery; single treatment area using a single port or parallel-opposed ports with no blocks or simple blocking	77422
High energy neutron radiation treatment delivery; 1 or more isocenter(s) with coplanar or non-coplanar geometry with blocking and/or wedge, and/or compensator(s)	77423
Radiation treatment management, five treatments	77427
Radiation therapy management with complete course of therapy consisting of one or two fractions only	77431
Stereotactic radiation treatment management of cranial lesion(s) (complete course of treatment consisting of one session)	77432
Stereotactic body radiation therapy, treatment management, per treatment course, to one or more lesions, including image guidance, entire course not to exceed 5 fractions	77435
Special treatment procedure (eg, total body irradiation, hemibody radiation, per oral, endocavitary or intraoperative cone irradiation)	77470
Unlisted procedure, therapeutic radiology treatment management	77499
Proton treatment delivery; simple, without compensation	77520

Proton treatment delivery; simple, with compensation	77522
Proton treatment delivery; intermediate	77523
Proton treatment delivery; complex	77525

These CPT codes will be used to identify Breast Cancer-related services during the measurement period, regardless of corresponding ICD-9 codes.

**Table BCTx-I: Surgery related codes for breast cancer-related care**

<b>Description</b>	<b>CPT</b>
Replacement of tissue expander with permanent prosthesis	11970
Biopsy of breast; percutaneous, needle core, not using imaging guidance (separate procedure)	19100
Biopsy of breast; open, incisional	19101
Biopsy of breast; percutaneous, needle core, using imaging guidance	19102
Biopsy of breast; percutaneous, automated vacuum assisted or rotating biopsy device, using imaging guidance	19103
Ablation, cryosurgical, of fibroadenoma, including ultrasound guidance, each fibroadenoma	19105
Nipple exploration, with or without excision of a solitary lactiferous duct or a papilloma lactiferous duct	19110
Excision of lactiferous duct fistula	19112
Excision of cyst, fibroadenoma, or other benign or malignant tumor, aberrant breast tissue, duct lesion, nipple or areolar lesion (except 19300), open, male or female, one or more lesions	19120
Excision of breast lesion identified by preoperative placement of radiological marker, open; single lesion	19125
Excision of breast lesion identified by preoperative placement of radiological marker, open; each additional lesion separately identified by a preoperative radiological marker (List separately in addition to code for primary procedure)	19126
Excision of chest wall tumor including ribs	19260
Excision of chest wall tumor involving ribs, with plastic reconstruction; without mediastinal lymphadenectomy	19271
Excision of chest wall tumor involving ribs, with plastic reconstruction; with mediastinal lymphadenectomy	19272
Preoperative placement of needle localization wire, breast;	19290
Preoperative placement of needle localization wire, breast; each additional lesion (List separately in addition to code for primary procedure)	19291
Image guided placement, metallic localization clip, percutaneous, during breast biopsy (List separately in addition to code for primary procedure)	19295
Placement of radiotherapy afterloading balloon catheter into the breast for interstitial radioelement application following partial mastectomy,	19296

includes imaging guidance; on date separate from partial mastectomy	
Placement of radiotherapy afterloading balloon catheter into the breast for interstitial radioelement application following partial mastectomy, includes imaging guidance; concurrent with partial mastectomy (List separately in addition to code for primary procedure)	19297
Placement of radiotherapy afterloading brachytherapy catheters (multiple tube and button type) into the breast for interstitial radioelement application following (at the time of or subsequent to) partial mastectomy, includes imaging guidance	19298
Mastectomy for gynecomastia (pre 2007 CPT)	19300 (19140)
Mastectomy, partial (eg, lumpectomy, tylectomy, quadrantectomy, segmentectomy); (pre 2007 CPT)	19301 (19160)
Mastectomy, partial (eg, lumpectomy, tylectomy, quadrantectomy, segmentectomy); with axillary lymphadenectomy (pre 2007 CPT)	19302 (19162)
Mastectomy, simple, complete (pre 2007 CPT)	19303 (19180)
Mastectomy, subcutaneous (pre-2007 CPT)	19304 (19182)
Mastectomy, radical, including pectoral muscles, axillary lymph nodes (pre-2007 CPT)	19305 (19200)
Mastectomy, radical, including pectoral muscles, axillary and internal mammary lymph nodes (Urban type operation) (pre-2007 CPT)	19306 (19220)
Mastectomy, modified radical, including axillary lymph nodes, with or without pectoralis minor muscle, but excluding pectoralis major muscle (pre-2007 CPT)	19307 (19240)
Mastopexy	19316
Reduction mammoplasty	19318
Immediate insertion of breast prosthesis following mastopexy, mastectomy or in reconstruction	19340
Delayed insertion of breast prosthesis following mastopexy, mastectomy or in reconstruction	19342
Nipple/areola reconstruction	19350
Correction of inverted nipples	19355
Breast reconstruction, immediate or delayed, with tissue expander, including subsequent expansion	19357
Breast reconstruction with latissimus dorsi flap, without prosthetic implant	19361
Breast reconstruction with free flap	19364
Breast reconstruction with other technique	19366
Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), single pedicle, including closure of donor site;	19367

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Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), single pedicle, including closure of donor site; with microvascular anastomosis (supercharging)	19368
Breast reconstruction with transverse rectus abdominis myocutaneous flap (TRAM), double pedicle, including closure of donor site	19369
Open periprosthetic capsulotomy, breast	19370
Periprosthetic capsulectomy, breast	19371
Revision of reconstructed breast	19380
Preparation of moulage for custom breast implant	19396
Unlisted procedure, breast	19499
	36533
Insertion of peripherally inserted central venous access device, with subcutaneous port; age 5 years or older	36571
Removal of tunneled central venous access device, with subcutaneous port or pump, central or peripheral insertion	36590
Biopsy or excision of lymph node(s); open, deep axillary node(s)	38525
Axillary lymphadenectomy; superficial	38740
Axillary lymphadenectomy; complete	38745
Injection procedure; for identification of sentinel node	38792
Fluoroscopic guidance for central venous access device placement (deleted 2007)	75998
Mammography; unilateral (deleted 2007)	76090
Stereotactic localization guidance for breast biopsy or needle placement (deleted 2007)	76095
Mammographic guidance for needle placement, breast, each lesion, radiological supervision and interpretation (deleted 2007)	76096
Radiological examination, surgical specimen	76098
Ultrasound, breast(s) (unilateral or bilateral), real time with image documentation	76645
Ultrasonic guidance for needle placement (eg, biopsy, aspiration, injection, localization device), imaging supervision and interpretation	76942
Ultrasonic guidance, intraoperative (deleted 2007)	76986
Fluoroscopic guidance for central venous access device placement, replacement (catheter only or complete), or removal (includes fluoroscopic guidance for vascular access and catheter manipulation, any necessary contrast injections through access site or catheter with related venography radiologic supervision and interpretation, and radiographic documentation of final catheter position) (List separately in addition to code for primary procedure)	77001
Radiopharmaceutical localization of tumor or distribution of radiopharmaceutical agent(s); multiple areas	78801
Lymphatics and lymph nodes imaging	78195

These CPT codes will be used to identify Breast Cancer-related services during the measurement period, regardless of corresponding ICD-9 codes.

**Table BCTx-J-Anesth: Anesthesia related codes related to breast cancer treatment**

Description	CPT
Anesthesia for procedures on integumentary system on the extremities, anterior trunk and perineum, NOS	00400
Anesthesia for procedures on the integumentary system on the extremities, anterior trunk and perineum; reconstructive procedures on breast (eg, reduction or augmentation mammoplasty, muscle flaps)	00402
Anesthesia for procedures on the integumentary system on the extremities, anterior trunk and perineum; radical or modified radical procedures on breast	00404
Anesthesia for procedures on the integumentary system on the extremities, anterior trunk and perineum; radical or modified radical procedures on breast with internal mammary node dissection	00406
<b>Conscious Sedation</b>	
Code deleted for 2006. To report, see 99143...99145 Sedation with or without analgesia (conscious sedation); intravenous, intramuscular or inhalation	99141
Code deleted for 2006. To report, see 99143...99145 Sedation with or without analgesia (conscious sedation); oral, rectal and/or intranasal	99142
Moderate sedation services (other than those services described by codes 00100-01999) provided by the same physician performing the diagnostic or therapeutic service that the sedation supports, requiring the presence of an independent trained observer to assist in the monitoring of the patient's level of consciousness and physiological status; younger than 5 years of age, first 30 minutes intra-service time	99143
Moderate sedation services (other than those services described by codes 00100-01999) provided by the same physician performing the diagnostic or therapeutic service that the sedation supports, requiring the presence of an independent trained observer to assist in the monitoring of the patient's level of consciousness and physiological status; age 5 years or older, first 30 minutes intra-service time	99144
Moderate sedation services (other than those services described by codes 00100-01999) provided by the same physician performing the diagnostic or therapeutic service that the sedation supports, requiring the presence of an independent trained observer to assist in the monitoring of the patient's level of consciousness and physiological status; each additional 15 minutes intra-service time (List separately in addition to code for primary service)	99145
Moderate sedation services (other than those services described by codes 00100-01999), provided by a physician other than the health care professional performing the diagnostic or therapeutic service that the sedation supports; younger than 5 years of age, first 30 minutes intra-	99148

service time	
Moderate sedation services (other than those services described by codes 00100-01999), provided by a physician other than the health care professional performing the diagnostic or therapeutic service that the sedation supports; age 5 years or older, first 30 minutes intra-service time	99149
Moderate sedation services (other than those services described by codes 00100-01999), provided by a physician other than the health care professional performing the diagnostic or therapeutic service that the sedation supports; each additional 15 minutes intra-service time (List separately in addition to code for primary service)	99150

**Table BCTx-K: Breast cancer-related hospitalizations**

Description	DRG
Total Mastectomy for malignancy with CC	257
Total Mastectomy for malignancy w/o CC	258
Subtotal Mastectomy for malignancy with CC	259
Subtotal Mastectomy for malignancy w/o CC	260
Breast proc for non-malignancy except biopsy and local excision	261
Breast biopsy & local excision for non-malignancy	262
Malignant breast disorders with CC	274
Malignant breast disorders w/o CC	275

**OR**

Description	ICD-9
Malignant neoplasm of female breast	174.x
Nonspecific abnormal findings on radiologic and other examination of body structure, breast	793.8
Mastodynia (breast pain)	611.71
Lump or mass in breast	611.72
Signs and symptoms in breast, Other	611.79
Dermatitis	692.9, 691.8

These ICD-9 codes will be used to identify Breast Cancer-related services in the inpatient setting during the measurement period, regardless of corresponding CPT or UB revenue codes. DRG codes will be used to identify Breast Cancer-related inpatient care.

**Table BCTx-L: Chemotherapy related codes for breast cancer-related care**

<b>Description</b>	<b>CPT</b>
Chemotherapy administration, subcutaneous or intramuscular; non-hormonal anti-neoplastic	96401
Chemotherapy administration, subcutaneous or intramuscular; hormonal anti-neoplastic	96402
Chemotherapy administration; intralesional, up to and including 7 lesions	96405
Chemotherapy administration; intralesional, more than 7 lesions	96406
Chemotherapy administration; intravenous, push technique, single or initial substance/drug	96409
Chemotherapy administration; intravenous, push technique, each additional substance/drug (List separately in addition to code for primary procedure)	96411
Chemotherapy administration, intravenous infusion technique; up to 1 hour, single or initial substance/drug	96413
Chemotherapy administration, intravenous infusion technique; each additional hour (List separately in addition to code for primary procedure)	96415
Chemotherapy administration, intravenous infusion technique; initiation of prolonged chemotherapy infusion (more than 8 hours), requiring use of a portable or implantable pump	96416
Chemotherapy administration, intravenous infusion technique; each additional sequential infusion (different substance/drug), up to 1 hour (List separately in addition to code for primary procedure)	96417
Chemotherapy administration, intra-arterial; push technique	96420
Chemotherapy administration, intra-arterial; infusion technique, up to one hour	96422
Chemotherapy administration, intra-arterial; infusion technique, each additional hour (List separately in addition to code for primary procedure)	96423
Chemotherapy administration, intra-arterial; infusion technique, initiation of prolonged infusion (more than 8 hours), requiring the use of a portable or implantable pump	96425
Chemotherapy administration into pleural cavity, requiring and including thoracentesis	96440
Chemotherapy administration into peritoneal cavity, requiring and including peritoneocentesis	96445
Chemotherapy administration, into CNS (eg, intrathecal), requiring and including spinal puncture	96450
Refilling and maintenance of portable pump	96521
Refilling and maintenance of implantable pump or reservoir for drug delivery, systemic (eg, intravenous, intra-arterial)	96522
Irrigation of implanted venous access device for drug delivery systems	96523
Chemotherapy injection, subarachnoid or intraventricular via	96542

subcutaneous reservoir, single or multiple agents	
Unlisted chemotherapy procedure	96549

OR

Description	HCPCS
<b>Other treatments</b>	
INJECTION, AMIFOSTINE, 500 MG	J0207
INJECTION, AMOBARBITAL, UP TO 125 MG	J0300
INJECTION, BUSULFAN, 1 MG	J0594
INJECTION, LEUCOVORIN CALCIUM, PER 50 MG	J0640
INJECTION, LEVOLEUCOVORIN CALCIUM, 0.5 MG	J0641
INJECTION, PROCHLORPERAZINE, UP TO 10 MG	J0780
INJECTION, DECITABINE, 1 MG	J0894
INJECTION, BROMPHENIRAMINE MALEATE, PER 10 MG	J0945
INJECTION, DIMENHYDRINATE, UP TO 50 MG	J1240
INJECTION, DOLASETRON MESYLATE, 10 MG	J1260
INJECTION, FILGRASTIM (G-CSF), 300 MCG	J1440
INJECTION, FILGRASTIM (G-CSF), 480 MCG	J1441
INJECTION, FOSAPREPITANT, 1 MG	J1453
INJECTION, GRANISETRON HYDROCHLORIDE, 100 MCG	J1626
INJECTION, OPRELVEKIN, 5 MG	J2355
INJECTION, ONDANSETRON HYDROCHLORIDE, PER 1 MG	J2405
INJECTION, PALIFERMIN, 50 MICROGRAMS	J2425
INJECTION, PALONOSETRON HCL, 25 MCG	J2469
INJECTION, PEGFILGRASTIM, 6 MG	J2505
INJECTION, PROMETHAZINE HCL, UP TO 50 MG	J2550
INJECTION, METOCLOPRAMIDE HCL, UP TO 10 MG	J2765
INJECTION, RANIBIZUMAB, 0.1 MG	J2778
INJECTION, RASBURICASE, 0.5 MG	J2783
INJECTION, SARGRAMOSTIM (GM-CSF), 50 MCG	J2820
INJECTION, CHLORPROMAZINE HCL, UP TO 50 MG	J3230
INJECTION, TRIMETHOBENZAMIDE HCL, UP TO 200 MG	J3250
INJECTION, THIETHYLPERAZINE MALEATE, UP TO 10 MG	J3280
INJECTION, PERPHENAZINE, UP TO 5 MG	J3310
INJECTION, TRIPTORELIN PAMOATE, 3.75 MG	J3315
ANTIEMETIC DRUG, RECTAL/SUPPOSITORY, NOT OTHERWISE SPECIFIED	J8498
INFUSION, NORMAL SALINE SOLUTION , 1000 CC	J7030
INFUSION, NORMAL SALINE SOLUTION, STERILE (500 ML=1 UNIT)	J7040
5% DEXTROSE/NORMAL SALINE (500 ML = 1 UNIT)	J7042
INFUSION, NORMAL SALINE SOLUTION , 250 CC	J7050
STERILE SALINE OR WATER, UP TO 5 CC	J7051
5% DEXTROSE/WATER (500 ML = 1 UNIT)	J7060
INFUSION, D5W, 1000 CC	J7070
INFUSION, DEXTRAN 40, 500 ML	J7100

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INFUSION, DEXTRAN 75, 500 ML	J7110
RINGERS LACTATE INFUSION, UP TO 1000 CC	J7120
HYPERTONIC SALINE SOLUTION, 50 OR 100 MEQ, 20 CC VIAL	J7130
<b>Chemotherapeutic Agents</b>	
APREPITANT, ORAL, 5 MG	J8501
BUSULFAN; ORAL, 2 MG	J8510
CABERGOLINE, ORAL, 0.25 MG	J8515
CAPECITABINE, ORAL, 150 MG	J8520
CAPECITABINE, ORAL, 500 MG	J8521
CYCLOPHOSPHAMIDE; ORAL, 25 MG	J8530
DEXAMETHASONE, ORAL, 0.25 MG	J8540
ETOPOSIDE; ORAL, 50 MG	J8560
GEFITINIB, ORAL, 250 MG	J8565
ANTIEMETIC DRUG, ORAL, NOT OTHERWISE SPECIFIED	J8597
MELPHALAN; ORAL, 2 MG	J8600
METHOTREXATE; ORAL, 2.5 MG	J8610
NABILONE, ORAL, 1 MG	J8650
TEMOZOLOMIDE, ORAL, 5 MG	J8700
TOPOTECAN, ORAL, 0.25 MG	J8705
PRESCRIPTION DRUG, ORAL, CHEMOTHERAPEUTIC, NOS	J8999
INJECTION, DOXORUBICIN HYDROCHLORIDE, 10 MG	J9000
INJECTION, DOXORUBICIN HYDROCHLORIDE, ALL LIPID FORMULATIONS, 10 MG	J9001
INJECTION, ALEMTUZUMAB, 10 MG	J9010
INJECTION, ALDESLEUKIN, PER SINGLE USE VIAL	J9015
INJECTION, ARSENIC TRIOXIDE, 1 MG	J9017
INJECTION, ASPARAGINASE, 10,000 UNITS	J9020
INJECTION, AZACITIDINE, 1 MG	J9025
INJECTION, CLOFARABINE, 1 MG	J9027
BCG (INTRAVESICAL) PER INSTILLATION	J9031
INJECTION, BENDAMUSTINE HCL, 1 MG	J9033
INJECTION, BEVACIZUMAB, 10 MG	J9035
INJECTION, BLEOMYCIN SULFATE, 15 UNITS	J9040
INJECTION, BORTEZOMIB, 0.1 MG	J9041
INJECTION, CARBOPLATIN, 50 MG	J9045
INJECTION, CARMUSTINE, 100 MG	J9050
INJECTION, CETUXIMAB, 10 MG	J9055
CISPLATIN, POWDER OR SOLUTION, PER 10 MG	J9060
CISPLATIN, 50 MG	J9062
INJECTION, CLADRIBINE, PER 1 MG	J9065
CYCLOPHOSPHAMIDE, 100 MG	J9070
CYCLOPHOSPHAMIDE, 200 MG	J9080
CYCLOPHOSPHAMIDE, 500 MG	J9090
CYCLOPHOSPHAMIDE, 1.0 GRAM	J9091
CYCLOPHOSPHAMIDE, 2.0 GRAM	J9092
CYCLOPHOSPHAMIDE, LYOPHILIZED, 100 MG	J9093
CYCLOPHOSPHAMIDE, LYOPHILIZED, 200 MG	J9094

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CYCLOPHOSPHAMIDE, LYOPHILIZED, 500 MG	J9095
CYCLOPHOSPHAMIDE, LYOPHILIZED, 1.0 GRAM	J9096
CYCLOPHOSPHAMIDE, LYOPHILIZED, 2.0 GRAM	J9097
INJECTION, CYTARABINE LIPOSOME, 10 MG	J9098
INJECTION, CYTARABINE, 100 MG	J9100
INJECTION, CYTARABINE, 500 MG	J9110
INJECTION, DACTINOMYCIN, 0.5 MG	J9120
DACARBAZINE, 100 MG	J9130
DACARBAZINE, 200 MG	J9140
INJECTION, DAUNORUBICIN, 10 MG	J9150
INJECTION, DAUNORUBICIN CITRATE, LIPOSOMAL FORMULATION, 10 MG	J9151
INJECTION, DENILEUKIN DIFTITOX, 300 MICROGRAMS	J9160
INJECTION, DIETHYLSTILBESTROL DIPHOSPHATE, 250 MG	J9165
INJECTION, DOCETAXEL, 20 MG	J9170
INJECTION, EPIRUBICIN HCL, 2 MG	J9178
INJECTION, ETOPOSIDE, 10 MG	J9181
ETOPOSIDE, 100 MG	J9182
INJECTION, FLUDARABINE PHOSPHATE, 50 MG	J9185
INJECTION, FLUOROURACIL, 500 MG	J9190
INJECTION, FLOXURIDINE, 500 MG	J9200
INJECTION, GEMCITABINE HYDROCHLORIDE, 200 MG	J9201
GOSERELIN ACETATE IMPLANT, PER 3.6 MG	J9202
INJECTION, IRINOTECAN, 20 MG	J9206
INJECTION, IXABEPILONE, 1 MG	J9207
INJECTION, IFOSFAMIDE, 1 GRAM	J9208
INJECTION, MESNA, 200 MG	J9209
INJECTION, IDARUBICIN HYDROCHLORIDE, 5 MG	J9211
INJECTION, INTERFERON ALFACON-1, RECOMBINANT, 1 MICROGRAM	J9212
INJECTION, INTERFERON, ALFA-2A, RECOMBINANT, 3 MILLION UNITS	J9213
INJECTION, INTERFERON, ALFA-2B, RECOMBINANT, 1 MILLION UNITS	J9214
INJECTION, INTERFERON, ALFA-N3, (HUMAN LEUKOCYTE DERIVED), 250,000 IU	J9215
INJECTION, INTERFERON, GAMMA I-B, 3 MILLION UNITS	J9216
LEUPROLIDE ACETATE (FOR DEPOT SUSPENSION), 7.5 MG	J9217
LEUPROLIDE ACETATE, PER 1 MG	J9218
LEUPROLIDE ACETATE IMPLANT, 65 MG	J9219
HISTRELIN IMPLANT (VANTAS), 50 MG	J9225
HISTRELIN IMPLANT (SUPPRELIN LA), 50 MG	J9226
INJECTION, MECHLORETHAMINE HYDROCHLORIDE, (NITROGEN MUSTARD), 10 MG	J9230
INJECTION, MELPHALAN HYDROCHLORIDE, 50 MG	J9245
METHOTREXATE SODIUM, 5 MG	J9250
METHOTREXATE SODIUM, 50 MG	J9260
INJECTION, NELARABINE, 50 MG	J9261
INJECTION, OXALIPLATIN, 0.5 MG	J9263
INJECTION, PACLITAXEL PROTEIN-BOUND PARTICLES, 1 MG	J9264

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INJECTION, PACLITAXEL, 30 MG	J9265
INJECTION, PEGASPARGASE, PER SINGLE DOSE VIAL	J9266
INJECTION, PENTOSTATIN, 10 MG	J9268
INJECTION, PLICAMYCIN, 2.5 MG	J9270
MITOMYCIN, 5 MG	J9280
MITOMYCIN, 20 MG	J9290
MITOMYCIN, 40 MG	J9291
INJECTION, MITOXANTRONE HYDROCHLORIDE, PER 5 MG	J9293
INJECTION, GEMTUZUMAB OZOGAMICIN, 5 MG	J9300
INJECTION, PANITUMUMAB, 10 MG	J9303
INJECTION, PEMETREXED, 10 MG	J9305
INJECTION, RITUXIMAB, 100 MG	J9310
INJECTION, STREPTOZOCIN, 1 GRAM	J9320
INJECTION, TEMSIROLIMUS, 1 MG	J9330
INJECTION, THIOTEPA, 15 MG	J9340
INJECTION, TOPOTECAN, 4 MG	J9350
INJECTION, TRASTUZUMAB, 10 MG	J9355
INJECTION, VALRUBICIN, INTRAVESICAL, 200 MG	J9357
INJECTION, VINBLASTINE SULFATE, 1 MG	J9360
VINCRISTINE SULFATE, 1 MG	J9370
VINCRISTINE SULFATE, 2 MG	J9375
VINCRISTINE SULFATE, 5 MG	J9380
INJECTION, VINOURELBINE TARTRATE, 10 MG	J9390
INJECTION, FULVESTRANT, 25 MG	J9395
INJECTION, PORFIMER SODIUM, 75 MG	J9600
NOT OTHERWISE CLASSIFIED, ANTINEOPLASTIC DRUGS	J9999
CHEMOTHERAPY ADMINISTRATION BY OTHER THAN INFUSION TECHNIQUE ONLY (EG SUBCUTANEOUS, INTRAMUSCULAR, PUSH), PER VISIT	Q0083
CHEMOTHERAPY ADMINISTRATION BY INFUSION TECHNIQUE ONLY, PER VISIT	Q0084
CHEMOTHERAPY ADMINISTRATION BY BOTH INFUSION TECHNIQUE AND OTHER TECHNIQUE(S) (EG SUBCUTANEOUS, INTRAMUSCULAR, PUSH), PER VISIT	Q0085
<b>Antibiotics / Antifungals</b>	
INJECTION, DAPTOMYCIN, 1 MG	J0878
INJECTION, DORIPENEM, 10 MG	J1267
INJECTION, ERTAPENEM SODIUM, 500 MG	J1335
INJECTION, GARAMYCIN, GENTAMICIN, UP TO 80 MG	J1580
INJECTION, GATIFLOXACIN, 10MG	J1590
INJECTION, KANAMYCIN SULFATE, UP TO 500 MG	J1840
INJECTION, KANAMYCIN SULFATE, UP TO 75 MG	J1850
INJECTION, CEPHALOTHIN SODIUM, UP TO 1 GRAM	J1890
INJECTION, LEVOFLOXACIN, 250 MG	J1956
INJECTION, LINCOMYCIN HCL, UP TO 300 MG	J2010
INJECTION, LINEZOLID, 200MG	J2020
INJECTION, MEROPENEM, 100 MG	J2185

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INJECTION, MOXIFLOXACIN, 100 MG	J2280
INJECTION, OXYTETRACYCLINE HCL, UP TO 50 MG	J2460
INJECTION, PENICILLIN G PROCAINE, AQUEOUS, UP TO 600,000 UNITS	J2510
INJECTION, PENICILLIN G POTASSIUM, UP TO 600,000 UNITS	J2540
INJECTION, PIPERACILLIN SODIUM/TAZOBACTAM SODIUM, 1 GRAM/0.125 GRAMS (1.125	J2543
INJECTION, OXACILLIN SODIUM, UP TO 250 MG	J2700
INJECTION, QUINUPRISTIN/DALFOPRISTIN, 500 MG (150/350)	J2770
INJECTION, STREPTOMYCIN, UP TO 1 GM	J3000
INJECTION, TIGECYCLINE, 1 MG	J3243
INJECTION, TOBRAMYCIN SULFATE, UP TO 80 MG	J3260
INJECTION, SPECTINOMYCIN DIHYDROCHLORIDE, UP TO 2 GM	J3320
INJECTION, VANCOMYCIN HCL, 500 MG	J3370
INJECTION FLUCONAZOLE, 200 MG	J1450
INJECTION, ITRACONAZOLE, 50 MG	J1835
INJECTION, MICAFUNGIN SODIUM, 1 MG	J2248
INJECTION, VORICONAZOLE, 10 MG	J3465
INJECTION, EPOETIN ALPHA, (FOR NON ESRD USE), PER 1000 UNITS	Q0136
INJECTION, DARBEPOETIN ALFA, 1 MCG (NON-ESRD USE)	Q0137
AZITHROMYCIN DIHYDRATE, ORAL, CAPSULES/POWDER, 1 GRAM	Q0144
DIPHENHYDRAMINE HYDROCHLORIDE, 50 MG, ORAL, FDA APPROVED PRESCRIPTION	Q0163
ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC	Q0163
AT TIME OF CHEMOTHERAPY TREATMENT NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0163
PROCHLORPERAZINE MALEATE, 5 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,	Q0164
FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME	Q0164
OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0164
PROCHLORPERAZINE MALEATE, 10 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,	Q0165
FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME	Q0165
OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0165
GRANISETRON HYDROCHLORIDE, 1 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,	Q0166
FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME	Q0166
OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 24 HOUR DOSAGE REGIMEN	Q0166
DRONABINOL, 2.5 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS A	Q0167
COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT	Q0167

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THE TIME OF	
CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0167
DRONABINOL, 5 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS A	Q0168
COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF	Q0168
CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0168
PROMETHAZINE HYDROCHLORIDE, 12.5 MG, ORAL, FDA APPROVED PRESCRIPTION	Q0169
ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC	Q0169
AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0169
PROMETHAZINE HYDROCHLORIDE, 25 MG, ORAL, FDA APPROVED PRESCRIPTION	Q0170
ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC	Q0170
AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0170
CHLORPROMAZINE HYDROCHLORIDE, 10 MG, ORAL, FDA APPROVED PRESCRIPTION	Q0171
ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC	Q0171
AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0171
CHLORPROMAZINE HYDROCHLORIDE, 25 MG, ORAL, FDA APPROVED PRESCRIPTION	Q0172
ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC	Q0172
AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0172
TRIMETHOBENZAMIDE HYDROCHLORIDE, 250 MG, ORAL, FDA APPROVED PRESCRIPTION	Q0173
ANTI-EMETIC, FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC	Q0173
AT THE TIME OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0173
THIETHYLPERAZINE MALEATE, 10 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,	Q0174
FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME	Q0174
OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0174
PERPHENAZINE, 4 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS A	Q0175
COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF	Q0175

CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0175
PERPHENAZINE, 8MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS A	Q0176
COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF	Q0176
CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0176
HYDROXYZINE PAMOATE, 25 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR	Q0177
USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF	Q0177
CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0177
HYDROXYZINE PAMOATE, 50 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR	Q0178
USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF	Q0178
CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0178
ONDANSETRON HYDROCHLORIDE 8 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC,	Q0179
FOR USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME	Q0179
OF CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0179
DOLASETRON MESYLATE, 100 MG, ORAL, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR	Q0180
USE AS A COMPLETE THERAPEUTIC SUBSTITUTE FOR AN IV ANTI-EMETIC AT THE TIME OF	Q0180
CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 24 HOUR DOSAGE REGIMEN	Q0180
UNSPECIFIED ORAL DOSAGE FORM, FDA APPROVED PRESCRIPTION ANTI-EMETIC, FOR USE AS	Q0181
A COMPLETE THERAPEUTIC SUBSTITUTE FOR A IV ANTI-EMETIC AT THE TIME OF	Q0181
CHEMOTHERAPY TREATMENT, NOT TO EXCEED A 48 HOUR DOSAGE REGIMEN	Q0181

**OR**

<b>Class</b>	<b>Medications</b>
Benzodiazepines	alprazolam, bromazepam, chlordiazepoxide, clonazepam, clorazepate, diazepam, lorazepam, medazepam, nordazepam, oxazepam, prazepam (THERCLS = 64)
Antineoplastic Agents, NEC	THERCLS = 21
Antiemetics, NEC	THERCLS = 160

Hematopoietic, Agents, NEC	THERCLS = 42
Antidepressants	THERCLS = 69

These codes will be used to identify Breast Cancer-related services during the measurement period, regardless of corresponding ICD-9 codes.

**Table BCTx-M: Breast-cancer related transportation costs**

Description	ICD-9
Malignant neoplasm of female breast	174.x
Carcinoma in situ of breast	233.0
Personal history of malignant neoplasm, breast	V10.3

**PLUS**

Description	HCPCS
AMBULANCE SERVICE, OUTSIDE STATE PER MILE, TRANSPORT (MEDICAID ONLY)	A0021
NON-EMERGENCY TRANSPORTATION, PER MILE - VEHICLE PROVIDED BY VOLUNTEER (INDIVIDUAL OR ORGANIZATION), WITH NO VESTED INTEREST	A0080
NON-EMERGENCY TRANSPORTATION, PER MILE - VEHICLE PROVIDED BY INDIVIDUAL (FAMILY MEMBER, SELF, NEIGHBOR) WITH VESTED INTEREST	A0090
NON-EMERGENCY TRANSPORTATION; TAXI	A0100
NON-EMERGENCY TRANSPORTATION AND BUS, INTRA OR INTER STATE CARRIER	A0110
NON-EMERGENCY TRANSPORTATION: MINI-BUS, MOUNTAIN AREA TRANSPORTS, OR OTHER TRANSPORTATION SYSTEMS	A0120
NON-EMERGENCY TRANSPORTATION: WHEEL-CHAIR VAN	A0130
NON-EMERGENCY TRANSPORTATION AND AIR TRAVEL (PRIVATE OR COMMERCIAL) INTRA OR INTER STATE	A0140
NON-EMERGENCY TRANSPORTATION: PER MILE - CASE WORKER OR SOCIAL WORKER	A0160
TRANSPORTATION ANCILLARY: PARKING FEES, TOLLS, OTHER	A0170
NON-EMERGENCY TRANSPORTATION: ANCILLARY: LODGING-RECIPIENT	A0180
NON-EMERGENCY TRANSPORTATION: ANCILLARY: MEALS-RECIPIENT	A0190
NON-EMERGENCY TRANSPORTATION: ANCILLARY: LODGING ESCORT	A0200
NON-EMERGENCY TRANSPORTATION: ANCILLARY: MEALS-ESCORT	A0210
AMBULANCE SERVICE, NEONATAL TRANSPORT, BASE RATE,	A0225

Episode-based Resource Use Measures: Breast Cancer

EMERGENCY TRANSPORT, ONE WAY	
BLS MILEAGE (PER MILE)	A0380
BLS ROUTINE DISPOSABLE SUPPLIES	A0382
BLS SPECIALIZED SERVICE DISPOSABLE SUPPLIES; DEFIBRILLATION (USED BY ALS AMBULANCES AND BLS AMBULANCES IN JURISDICTIONS WHERE DEFIBRILLATION IS PERMITTED IN BLS AMBULANCES)	A0384
ALS MILEAGE (PER MILE)	A0390
ALS SPECIALIZED SERVICE DISPOSABLE SUPPLIES; DEFIBRILLATION (TO BE USED ONLY IN JURISDICTIONS WHERE DEFIBRILLATION CANNOT BE PERFORMED IN BLS AMBULANCES)	A0392
ALS SPECIALIZED SERVICE DISPOSABLE SUPPLIES; IV DRUG THERAPY	A0394
ALS SPECIALIZED SERVICE DISPOSABLE SUPPLIES; ESOPHAGEAL INTUBATION	A0396
ALS ROUTINE DISPOSABLE SUPPLIES	A0398
AMBULANCE WAITING TIME (ALS OR BLS), ONE HALF (1/2) HOUR INCREMENTS	A0420
AMBULANCE (ALS OR BLS) OXYGEN AND OXYGEN SUPPLIES, LIFE SUSTAINING SITUATION	A0422
EXTRA AMBULANCE ATTENDANT, GROUND (ALS OR BLS) OR AIR (FIXED OR ROTARY WINGED); (REQUIRES MEDICAL REVIEW)	A0424
GROUND MILEAGE, PER STATUTE MILE	A0425
AMBULANCE SERVICE, ADVANCED LIFE SUPPORT, NON- EMERGENCY TRANSPORT, LEVEL 1 (ALS 1)	A0426
AMBULANCE SERVICE, ADVANCED LIFE SUPPORT, EMERGENCY TRANSPORT, LEVEL 1 (ALSI-EMERGENCY)	A0427
AMBULANCE SERVICE, BASIC LIFE SUPPORT, NON-EMERGENCY TRANSPORT, (BLS)	A0428
AMBULANCE SERVICE, BASIC LIFE SUPPORT, EMERGENCY TRANSPORT (BLS-EMERGENCY)	A0429
AMBULANCE SERVICE, CONVENTIONAL AIR SERVICES, TRANSPORT, ONE WAY (FIXED WING)	A0430
AMBULANCE SERVICE, CONVENTIONAL AIR SERVICES, TRANSPORT, ONE WAY (ROTARY WING)	A0431
PARAMEDIC INTERCEPT (PI), RURAL AREA, TRANSPORT FURNISHED BY A VOLUNTEER AMBULANCE COMPANY WHICH IS PROHIBITED BY STATE LAW FROM BILLING THIRD PARTY PAYERS	A0432
ADVANCED LIFE SUPPORT, LEVEL 2 (ALS 2)	A0433
SPECIALTY CARE TRANSPORT (SCT)	A0434
FIXED WING AIR MILEAGE, PER STATUTE MILE	A0435
ROTARY WING AIR MILEAGE, PER STATUTE MILE	A0436

AMBULANCE TRANSPORT PROVIDED BETWEEN THE HOURS OF 7PM AND 7AM	A0800
NONCOVERED AMBULANCE MILEAGE, PER MILE (E.G., FOR MILES TRAVELED BEYOND CLOSEST APPROPRIATE FACILITY)	A0888
AMBULANCE RESPONSE AND TREATMENT, NO TRANSPORT	A0998
UNLISTED AMBULANCE SERVICE	A0999

These combinations of diagnostic codes, present in any field, and procedure codes will be used to identify related services during the measurement period.

**Table BCTx-N1: Other breast-cancer related services, ICD-9 codes**

Description	ICD-9
Intestinal infections due to other organisms	008.x
Ill-defined intestinal infections	009.x
Streptococcal sore throat and scarlet fever	0.34x
Septicemia	038.x
Bacterial infection in conditions classified elsewhere and of unspecified site	041.x
Iron deficiency anemia	280.x
Anemia of chronic illness	285.2
Anemia, unspecified	285.9
Agranulocytosis	288.0
Major depressive disorder	296.2, 296.3
Pulmonary embolism	415.1x
DVT	453.4x

**Table BCTx-N2: Other breast-cancer related services, HCPCs codes**

Description	HCPCs
WIG, ANY TYPE, EACH	A9282
Infusion supplies for external drug infusion pump	A4222
CHEMOTHERAPY ADMINISTRATION, INTRAVENOUS; PUSH TECHNIQUE	C8953
CHEMOTHERAPY ADMINISTRATION, INTRAVENOUS; INFUSION TECHNIQUE, UP TO ONE HOUR	C8954
CHEMOTHERAPY ADMINISTRATION, INTRAVENOUS; INFUSION TECHNIQUE, EACH ADDITIONAL HOUR (LIST SEPARATELY IN ADDITION TO C8954)	C8955
COMPLETE CBC, AUTOMATED (HGB, HCT, RBC, WBC, WITHOUT PLATELET COUNT) AND AUTOMATED WBC DIFFERENTIAL COUNT	G0306
COMPLETE (CBC), AUTOMATED (HGB, HCT, RBC, WBC; WITHOUT PLATELET COUNT)	G0307
CHEMOTHERAPY ASSESSMENT FOR NAUSEA AND/OR	G9021

Episode-based Resource Use Measures: Breast Cancer

VOMITING, PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION; ASSESSMENT LEVEL ONE: NOT AT ALL (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	
CHEMOTHERAPY ASSESSMENT FOR NAUSEA AND/OR VOMITING, PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION; ASSESSMENT LEVEL TWO: A LITTLE (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9022
CHEMOTHERAPY ASSESSMENT FOR NAUSEA AND/OR VOMITING, PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION; ASSESSMENT LEVEL THREE: QUITE A BIT (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9023
CHEMOTHERAPY ASSESSMENT FOR NAUSEA AND/OR VOMITING, PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION; ASSESSMENT LEVEL FOUR: VERY MUCH (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9024
CHEMOTHERAPY ASSESSMENT FOR PAIN, PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL ONE: NOT AT ALL (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9025
CHEMOTHERAPY ASSESSMENT FOR PAIN, PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL TWO: A LITTLE (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9026
CHEMOTHERAPY ASSESSMENT FOR PAIN, PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL THREE: QUITE A BIT (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9027
CHEMOTHERAPY ASSESSMENT FOR PAIN, PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL FOUR: VERY MUCH (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9028
CHEMOTHERAPY ASSESSMENT FOR LACK OF ENERGY (FATIGUE), PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL ONE: NOT AT ALL (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9029
CHEMOTHERAPY ASSESSMENT FOR LACK OF ENERGY (FATIGUE), PATIENT REPORTED, PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL TWO: A LITTLE (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9030
CHEMOTHERAPY ASSESSMENT FOR LACK OF ENERGY	G9031

Episode-based Resource Use Measures: Breast Cancer

(FATIGUE), PATIENT REPORTED,PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL THREE:QUITE A BIT (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	
CHEMOTHERAPY ASSESSMENT FOR LACK OF ENERGY (FATIGUE), PATIENT REPORTED,PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL FOUR:VERY MUCH (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT) PERFORMED AT THE TIME OF CHEMOTHERAPY ADMINISTRATION, ASSESSMENT LEVEL FOUR: VERY MUCH (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9032
ONCOLOGY; PRIMARY FOCUS OF VISIT; WORK-UP, EVALUATION, OR STAGING AT THE TIME OF CANCER DIAGNOSIS OR RECURRENCE (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9050
ONCOLOGY; PRIMARY FOCUS OF VISIT; TREATMENT DECISION-MAKING AFTER DISEASE IS STAGED OR RESTAGED, DISCUSSION OF TREATMENT OPTIONS, SUPERVISING/COORDINATING ACTIVE CANCER DIRECTED THERAPY OR MANAGING CONSEQUENCES OF CANCER DIRECTED THERAPY (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9051
ONCOLOGY; PRIMARY FOCUS OF VISIT; SURVEILLANCE FOR DISEASE RECURRENCE FOR PATIENT WHO HAS COMPLETED DEFINITIVE CANCER-DIRECTED THERAPY AND CURRENTLY LACKS EVIDENCE OF RECURRENT DISEASE; CANCER DIRECTED THERAPY MIGHT BE CONSIDERED IN THE FUTURE (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9052
ONCOLOGY; PRIMARY FOCUS OF VISIT; EXPECTANT MANAGEMENT OF PATIENT WITH EVIDENCE OF CANCER FOR WHOM NO CANCER DIRECTED THERAPY IS BEING ADMINISTERED OR ARRANGED AT PRESENT; CANCER DIRECTED THERAPY MIGHT BE CONSIDERED IN THE FUTURE (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9053
ONCOLOGY; PRIMARY FOCUS OF VISIT; SUPERVISING, COORDINATING OR MANAGING CARE OF PATIENT WITH TERMINAL CANCER OR FOR WHOM OTHER MEDICAL ILLNESS PREVENTS FURTHER CANCER TREATMENT; INCLUDES SYMPTOM MANAGEMENT, END-OF-LIFE CARE PLANNING, MANAGEMENT OF PALLIATIVE THERAPIES (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9054
ONCOLOGY; PRIMARY FOCUS OF VISIT; OTHER, UNSPECIFIED SERVICE NOT OTHERWISE LISTED (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9055
ONCOLOGY; PRACTICE GUIDELINES; MANAGEMENT ADHERES TO GUIDELINES (FOR USE IN A MEDICARE-	G9056

Episode-based Resource Use Measures: Breast Cancer

APPROVED DEMONSTRATION PROJECT)	
ONCOLOGY; PRACTICE GUIDELINES; MANAGEMENT DIFFERS FROM GUIDELINES AS A RESULT OF PATIENT ENROLLMENT IN AN INSTITUTIONAL REVIEW BOARD APPROVED CLINICAL TRIAL (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9057
ONCOLOGY; PRACTICE GUIDELINES; MANAGEMENT DIFFERS FROM GUIDELINES BECAUSE THE TREATING PHYSICIAN DISAGREES WITH GUIDELINE RECOMMENDATIONS (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9058
ONCOLOGY; PRACTICE GUIDELINES; MANAGEMENT DIFFERS FROM GUIDELINES BECAUSE THE PATIENT, AFTER BEING OFFERED TREATMENT CONSISTENT WITH GUIDELINES, HAS OPTED FOR ALTERNATIVE TREATMENT OR MANAGEMENT, INCLUDING NO TREATMENT (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9059
ONCOLOGY; PRACTICE GUIDELINES; MANAGEMENT DIFFERS FROM GUIDELINES FOR REASON(S) ASSOCIATED WITH PATIENT COMORBID ILLNESS OR PERFORMANCE STATUS NOT FACTORED INTO GUIDELINES (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9060
ONCOLOGY; PRACTICE GUIDELINES; PATIENT'S CONDITION NOT ADDRESSED BY AVAILABLE GUIDELINES (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9061
ONCOLOGY; PRACTICE GUIDELINES; MANAGEMENT DIFFERS FROM GUIDELINES FOR OTHER REASON(S) NOT LISTED (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9062
ONCOLOGY; DISEASE STATUS; INVASIVE FEMALE BREAST CANCER (DOES NOT INCLUDE DUCTAL CARCINOMA IN SITU); ADENOCARCINOMA AS PREDOMINANT CELL TYPE; STAGE I OR STAGE IIA-IIB; OR T3, N1, M0; AND ER AND/OR PR POSITIVE; WITH NO EVIDENCE OF DISEASE PROGRESSION, RECURRENCE, OR METASTASES (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9071
ONCOLOGY; DISEASE STATUS; INVASIVE FEMALE BREAST CANCER (DOES NOT INCLUDE DUCTAL CARCINOMA IN SITU); ADENOCARCINOMA AS PREDOMINANT CELL TYPE; STAGE I, OR STAGE IIA-IIB; OR T3, N1, M0; AND ER AND PR NEGATIVE; WITH NO EVIDENCE OF DISEASE PROGRESSION, RECURRENCE, OR METASTASES (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9072
ONCOLOGY; DISEASE STATUS; INVASIVE FEMALE BREAST CANCER (DOES NOT INCLUDE DUCTAL CARCINOMA IN SITU); ADENOCARCINOMA AS PREDOMINANT CELL TYPE; STAGE IIIA-IIIIB; AND NOT T3, N1, M0; AND ER AND/OR PR POSITIVE; WITH NO EVIDENCE OF DISEASE	G9073

Episode-based Resource Use Measures: Breast Cancer

PROGRESSION, RECURRENCE, OR METASTASES (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	
ONCOLOGY; DISEASE STATUS; INVASIVE FEMALE BREAST CANCER (DOES NOT INCLUDE DUCTAL CARCINOMA IN SITU); ADENOCARCINOMA AS PREDOMINANT CELL TYPE; STAGE IIIA-III B; AND NOT T3, N1, M0; AND ER AND PR NEGATIVE; WITH NO EVIDENCE OF DISEASE PROGRESSION, RECURRENCE, OR METASTASES (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9074
ONCOLOGY; DISEASE STATUS; INVASIVE FEMALE BREAST CANCER (DOES NOT INCLUDE DUCTAL CARCINOMA IN SITU); ADENOCARCINOMA AS PREDOMINANT CELL TYPE; M1 AT DIAGNOSIS, METASTATIC, LOCALLY RECURRENT, OR PROGRESSIVE (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9075
ONCOLOGY; DISEASE STATUS; INVASIVE FEMALE BREAST CANCER (DOES NOT INCLUDE DUCTAL CARCINOMA IN SITU); ADENOCARCINOMA AS PREDOMINANT CELL TYPE; EXTENT OF DISEASE UNKNOWN, UNDER EVALUATION, PRE-SURGICAL OR NOT LISTED (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9076
COMPLETE CBC, AUTOMATED (HGB, HCT, RBC, WBC, WITHOUT PLATELET COUNT) AND AUTOMATED WBC DIFFERENTIAL COUNT	G0306
COMPLETE (CBC), AUTOMATED (HGB, HCT, RBC, WBC; WITHOUT PLATELET COUNT)	G0307
ONCOLOGY; DISEASE STATUS; INVASIVE FEMALE BREAST CANCER (DOES NOT INCLUDE DUCTAL CARCINOMA IN SITU); ADENOCARCINOMA AS PREDOMINANT CELL TYPE; EXTENT OF DISEASE UNKNOWN, STAGING IN PROGRESS, OR NOT LISTED (FOR USE IN A MEDICARE-APPROVED DEMONSTRATION PROJECT)	G9131
PRESCRIPTION ANTIEMETIC DRUG, ORAL, PER 1 MG, FOR USE IN CONJUNCTION WITH ORAL ANTI-CANCER DRUG, NOT OTHERWISE SPECIFIED	K0415
PRESCRIPTION ANTIEMETIC DRUG, RECTAL, PER 1 MG, FOR USE IN CONJUNCTION WITH ORAL ANTI-CANCER DRUG, NOT OTHERWISE SPECIFIED	K0416
HALO PROCEDURE, CERVICAL HALO INCORPORATED INTO JACKET VEST	L0810
HALO PROCEDURE, CERVICAL HALO INCORPORATED INTO PLASTER BODY JACKET	L0820
HALO PROCEDURE, CERVICAL HALO INCORPORATED INTO MILWAUKEE TYPE ORTHOSIS	L0830
ADDITION TO HALO PROCEDURE, MAGNETIC RESONANCE IMAGE COMPATIBLE SYSTEMS, RINGS AND PINS, ANY MATERIAL	L0859
ADDITION TO HALO PROCEDURES, MAGNETIC RESONANCE IMAGE COMPATIBLE SYSTEM	L0860
ADDITION TO HALO PROCEDURE, REPLACEMENT	L0861

Episode-based Resource Use Measures: Breast Cancer

LINER/INTERFACE MATERIAL	
BREAST PROSTHESIS, MASTECTOMY BRA	L8000
BREAST PROSTHESIS, MASTECTOMY BRA, WITH INTEGRATED BREAST PROSTHESIS FORM, UNILATERAL	L8001
BREAST PROSTHESIS, MASTECTOMY BRA, WITH INTEGRATED BREAST PROSTHESIS FORM, BILATERAL	L8002
BREAST PROSTHESIS, MASTECTOMY SLEEVE	L8010
EXTERNAL BREAST PROSTHESIS GARMENT, WITH MASTECTOMY FORM, POST MASTECTOMY	L8015
BREAST PROSTHESIS, MASTECTOMY FORM	L8020
BREAST PROSTHESIS, SILICONE OR EQUAL	L8030
CUSTOM BREAST PROSTHESIS, POST MASTECTOMY, MOLDED TO PATIENT MODEL	L8035
BREAST PROSTHESIS, NOT OTHERWISE SPECIFIED	L8039
HOSPICE REFERRAL VISIT (ADVISING PATIENT AND FAMILY OF CARE OPTIONS) PERFORMED BY NURSE, SOCIAL WORKER, OR OTHER DESIGNATED STAFF	S0255
COUNSELING AND DISCUSSION REGARDING ADVANCE DIRECTIVES OR END OF LIFE CARE PLANNING AND DECISIONS, WITH PATIENT AND/OR SURROGATE (LIST SEPARATELY IN ADDITION TO CODE FOR APPROPRIATE EVALUATION AND MANAGEMENT SERVICE)	S0257
HISTORY AND PHYSICAL (OUTPATIENT OR OFFICE) RELATED TO SURGICAL PROCEDURE (LIST SEPARATELY IN ADDITION TO CODE FOR APPROPRIATE EVALUATION AND MANAGEMENT SERVICE)	S0260
GENETIC COUNSELING, UNDER PHYSICIAN SUPERVISION, EACH 15 MINUTES	S0265
PHYSICIAN MANAGEMENT OF PATIENT HOME CARE, STANDARD MONTHLY CASE RATE (PER 30 DAYS)	S0270
PHYSICIAN MANAGEMENT OF PATIENT HOME CARE, HOSPICE MONTHLY CASE RATE (PER 30 DAYS)	S0271
BREAST RECONSTRUCTION WITH GLUTEAL ARTERY PERFORATOR (GAP) FLAP, INCLUDING HARVESTING OF THE FLAP, MICROVASCULAR TRANSFER, CLOSURE OF DONOR SITE AND SHAPING THE FLAP INTO A BREAST, UNILATERAL	S2066
BREAST RECONSTRUCTION OF A SINGLE BREAST WITH "STACKED" DEEP INFERIOREPIGASTRIC PERFORATOR (DIEP) FLAP(S) AND/OR GLUTEAL ARTERY PERFORATOR (GAP) FLAP(S), INCLUDING HARVESTING OF THE FLAP(S), MICROVASCULAR TRANSFER, CLOSURE OF DONOR SITE(S) AND SHAPING THE FLAP INTO A BREAST, UNILATERAL	S2067
BREAST RECONSTRUCTION WITH DEEP INFERIOR EPIGASTRIC PERFORATOR (DIEP) FLAP OR SUPERFICIAL INFERIOR EPIGASTRIC ARTERY (SIEA) FLAP, INCLUDING HARVESTING OF THE FLAP, MICROVASCULAR TRANSFER, CLOSURE OF DONOR SITE AND SHAPING THE FLAP	S2068

INTO ABREAST, UNILATERA	
COMPLETE GENE SEQUENCE ANALYSIS; BRCA1 GENE	S3818
COMPLETE GENE SEQUENCE ANALYSIS; BRCA2 GENE	S3819
COMPLETE BRCA1 AND BRCA2 GENE SEQUENCE ANALYSIS FOR SUSCEPTIBILITY TO BREAST AND OVARIAN CANCER	S3820
SINGLE MUTATION ANALYSIS (IN INDIVIDUAL WITH A KNOWN BRCA1 OR BRCA2 MUTATION IN THE FAMILY) FOR SUSCEPTIBILITY TO BREAST AND OVARIAN CANCER	S3822
THREE-MUTATION BRCA1 AND BRCA2 ANALYSIS FOR SUSCEPTIBILITY TO BREAST AND OVARIAN CANCER IN ASHKENAZI INDIVIDUALS	S3823
COMPUTER ANALYSIS OF FULL-FIELD DIGITAL MAMMOGRAM AND FURTHER PHYSICIAN REVIEW FOR INTERPRETATION, MAMMOGRAPHY (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE)	S8075
SCINTIMAMMOGRAPHY (RADIOIMMUNOSCINTIGRAPHY OF THE BREAST), UNILATERAL, INCLUDING SUPPLY OF RADIOPHARMACEUTICAL	S8080
HOME HEALTH AIDE OR CERTIFIED NURSE ASSISTANT, PROVIDING CARE IN THE HOME; PER HOUR	S9122
NURSING CARE, IN THE HOME; BY REGISTERED NURSE, PER HOUR (USE FOR GENERAL NURSING CARE ONLY, NOT TO BE USED WHEN CPT CODES 99500-99602 CAN BE USED)	S9123
NURSING CARE, IN THE HOME; BY LICENSED PRACTICAL NURSE, PER HOUR	S9124
RESPIRE CARE, IN THE HOME, PER DIEM	S9125
HOSPICE CARE, IN THE HOME, PER DIEM	S9126
SOCIAL WORK VISIT, IN THE HOME, PER DIEM	S9127

### **Risk Adjustment Method**

Resource use and costs are estimated separately for the following four strata:

- 1) Chemotherapy, with trastuzumab;
  - (J code for chemotherapy or THERCLS = 21 or CPT code for chemotherapy) AND (J9355 or GENNME = “trastuzumab”) during measurement period
- 2) Chemotherapy, no trastuzumab;
  - (J code for chemotherapy or THERCLS = 21 or CPT code for chemotherapy) AND NO (J9355 or GENNME = “trastuzumab”) during measurement period
- 3) No chemotherapy; and
  - No J code for chemotherapy or no THERCLS = 21 or no CPT code for chemotherapy

4) Neoadjuvant chemotherapy

Patients receiving chemotherapy (J code for chemotherapy or THERCLS = 21 or CPT code for chemotherapy) prior to surgery (CPTs 19120, 19125, 19126, 19160, 19162, [pre-2007 19140, 19160, 19162, 19180, 19182, 19200, 19220, 19240 OR 2007 forward 19300, 19301, 19302, 19303, 19304, 19305, 19306, 19307] or ICD-9 procedure codes 85.20, 85.21, 85.22, 85.23, 85.33, 85.34, 85.35, 85.36, 85.41, 85.42, 85.43, 85.44, 85.45, 85.46, 85.47, 85.48)

**Episode Severity / Disease Staging**

None

**Outlier Methodology**

All individuals are included in the analysis with costs winsorized at the 2<sup>nd</sup> and 98<sup>th</sup> percentile.

**Level of Measurement/Analysis**

Measurement will take place at the region level.

## Technical Appendix

### *Episode-of-Care for Treatment in Newly Diagnosed Cases of Breast Cancer over a 15-month Period*

#### Appendix Overview

The following document provides step-by-step methods for implementing the Episode-of-Care for Treatment in Newly Diagnosed Cases of Breast Cancer over a 15-month Period measure using an administrative, claims, or healthcare encounter database.

There are 9 sections for calculating person-level episode costs:

1. Eligible population identification
2. Identification of related resources
3. Assignment of standardized prices
4. Create episode specific strata
5. Calculation of individual episode costs
6. Calculation of risk-adjusted costs
7. Determination of attributable provider
8. Creation of provider summaries
9. Reporting

#### Measure Description

Resource use and costs associated with management newly diagnosed cases of breast cancer over an 18-month period, three months preceding the diagnosis date and 15 months following the initial diagnosis. Patients are included in the cohort based on identification of new diagnoses of breast cancer using a validated algorithm. Briefly, women with a diagnosis code for breast cancer are identified during the measurement year and stratified into high likelihood cases if they have surgical or procedure claims related to breast cancer (mastectomy, lumpectomy, radiation treatment) or have more than two visits with a primary diagnosis of breast cancer. Women are identified as non-high likelihood cases if they do not meet these criteria. These women are included as potential cases if they meet certain criteria related to surgery, multiple claims, other cancers and secondary breast cancer. Patients with a previous diagnosis of breast cancer, metastatic disease and non-melanoma non-skin cancer are excluded. Eligible patients are followed for 15 months following the initial date of their diagnosis during the measurement period and data from the three months preceding the entry date are also captured for identification of breast cancer-related care. Patients are stratified into four mutually exclusive groups: 1) Chemotherapy, with trastuzumab; 2) chemotherapy, no trastuzumab; 3) no chemotherapy; and 4) neoadjuvant chemotherapy. Episode-related resource use for patients within the episode is identified and standardized costs

are applied. Total breast cancer-related costs are calculated for each patient and summarized at the regional level. The overall breast cancer-related costs and resource use are calculated for each stratum. Costs of care are calculated at a system level due to the inability to measure important case-mix factors such as stage of disease and estrogen and progesterone receptor status in current administrative datasets.

## Required Data Elements

Eligibility and/or enrollment information (both medical and pharmacy)

Administrative claims:

- Inpatient
- Outpatient
- Pharmacy

## Required Data Duration and Timeframe

A minimum of 30 months of continuous data is necessary to calculate the measure. The 30-month period is divided into an 18-month measurement period where eligible events are identified and a 12-month period preceding the measurement period (identification year) so that each individual has 12 months of data prior to identification of their eligible event.

## Definitions

<b>Measurement year</b>	12-month period used to identify patients with eligible events for inclusion in the measure
<b>Identification year</b>	12-month period immediately preceding the eligible event over which patient comorbidities are measured
<b>Measure population</b>	The collection of patients who meet all measure inclusion criteria and do not meet any measure exclusion criteria. Their resource use will be calculated and included in provider summary reports.
<b>Age</b>	Patient age at the time of the eligible event
<b>Breast cancer-related<sup>1</sup></b>	Healthcare encounters defined as being related to breast cancer
<b>Continuous enrollment</b>	As identified in eligibility or enrollment information, full medical and pharmacy benefit enrollment during both the identification year and the measurement year, with at least 320 total days of coverage

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<sup>1</sup> May refer to services both appropriately and inappropriately rendered in the treatment or management of a patient with breast cancer

during each year<sup>2</sup>

**Medication dispensing event**

Medication dispensing with a positive, non-zero cost.

**Inpatient Hospital Event**

An acute care overnight hospital stay of  $\geq 1$  day with positive associated charges

**Section I – Eligible Population Identification**

The process of identifying patients to be included in the measure is divided into three separate steps, each with multiple sub-steps. The following steps are used for identifying the included population:

Step 1: Identify patients that meet the episode definition inclusion criteria

Step 2: Identify patients that meet eligibility and continuous enrollment criteria

Step 3: Identify patients with exclusion criteria

Step 4: Combine prior steps to identify measure population

**Step 1: Identify patients that meet episode inclusion criteria**

Patients will be included in the measure if they meet the Nattinger *et al.* criteria for an incident case of breast cancer.<sup>3</sup> The criteria are summarized as follows:

- 1) Screening step - identify patients with at least one diagnosis code for breast cancer (**Table BCTx-A**) and one breast cancer-related procedure code (**Table BCTx-B, Step 1**).
- 2) High likelihood cases - Patients identified in the screening step are evaluated for identification of high likelihood cases. Patients identified as high likelihood cases must meet both A and B in the following criteria during the measurement period:

A) Mastectomy claim (**Table BCTx-B, Step 2**)

OR

Lumpectomy or partial mastectomy claim (**Table BCTx-B, Step 2**) AND  $\geq 1$  claim for radiotherapy (**Table BCTx-B, Step 2**) with breast cancer diagnosis (**Table BCTx-A**)

AND

<sup>2</sup> This method was derived using HEDIS methods for determining coverage eligibility. HEDIS rules require that each eligible person have no more than 1 gap in coverage of up to 45 days in each year.

<sup>3</sup> Nattinger AB, Laud PV, Bajorunaite R, Sparapani RA, Freeman JL. An algorithm for the use of Medicare claims data to identify women with incident breast cancer. HSR 2004; 39:1733-1749.

B)  $\geq 2$  outpatient claims during measurement period with breast cancer as the primary diagnosis (**Table BCTx-A**)

- 3) Non-high likelihood cases - All patients identified in the screening step that do not meet the high likelihood case are evaluated as possible breast cancer cases. Four criteria are identified for each patient (Surgery, Single Claim, Other Cancer, Secondary Cancer to Breast). Patients are then defined as a breast cancer case if the combination of these four factors meet one of the following three definitions:

	Surgery	Single Claim	Other Cancer	2° Cancer to Breast
1	+	-	-	-
2	+	-	+	-
3	+	-	-	+

The following definitions are used to indicate positive values for the four criteria:

A) Surgery --  $\geq 1$  lumpectomy, partial mastectomy or mastectomy codes during measurement period (**Table BCTx-B**)

B) Single claim -- Patient with lumpectomy or partial mastectomy claim had only 1 month in which a claim contained primary breast cancer diagnosis (**Table BCTx-A**) or primary breast carcinoma in-situ diagnosis (**Table BCTx-B**)

C) Other cancer --  $\geq 1$  claim with a primary diagnosis for cancer other than breast cancer (**Table BCTx-B**)

D) Secondary cancer to breast --  $\geq 1$  claim of with secondary cancer to breast diagnosis (**Table BCTx-B**)

- 4) Incident case -- patients identified as either a high likelihood case or that screen positive for breast cancer in step 3 are assessed for prior breast cancer to determine if they are incident cases. Patients are identified as prevalent cases and excluded from the measure if they meet the following criteria during the 12 months (can use as much prior data as available for evaluation of prevalent cases) preceding the measurement period:

A) At least one diagnosis code for breast cancer (**Table BCTx-A**) and one breast cancer-related procedure code (**Table BCTx-B, Step 1**)

OR

B) Diagnosis of prior history of breast cancer (**Table BCTx-B**)

## **Step 2: Identify patients that meet eligibility and continuous enrollment criteria**

1. Eligibility
  - a. Identify benefits during both the measurement period (18 months) and the identification year
  - b. To be included persons must have both of the following benefits in both years
    - i. Medical benefit
    - ii. Pharmacy benefit
2. Continuous enrollment
  - a. Determine enrollment during both the identification and measurement years
  - b. Identify (or estimate<sup>4</sup>) total days of coverage in each year
  - c. To be eligible, persons must have at least 320 total days of coverage during the year preceding the measurement year and 480 days of total coverage during the 18 month measurement period.

## **Step 3: Identify patients with exclusion criteria**

1. Identify patients that meet one or more exclusion criteria:
  - a. Males
  - b. Metastatic disease, defined as a single E&M claim with a diagnosis code for metastatic disease (see **Table BCTx-C**); and
  - c. Other non-melanoma non-skin cancer diagnosis (see **Table BCTx-D**)

## **Step 4: Combine prior steps to identify measure population**

1. Identify breast cancer treatment eligible population
2. Exclude those patients not meeting general inclusion criteria (e.g., continuous eligibility)
3. Exclude those patients meeting one or more measure exclusion criteria
4. The resulting collection of patients is the measure population

## **Section 2 – Eligible Event Identification**

For each individual in the measure population, identify the following paid claims for services rendered during the measurement period. Claims / encounters will be identified based on the presence of breast cancer-related diagnosis or procedure codes. These events will be used to determine the breast cancer-related resource use.

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<sup>4</sup> If precise information regarding persons' total days of coverage is not available, it is recommended that measure implementers estimate this information to the best of their ability using available data elements (e.g., monthly enrollment indicators).

### ***Inpatient hospitalization events***

Identify all inpatient hospitalization events with one of the following diagnosis codes appearing in the **primary** diagnosis field (see **Table BCTx-K**) or DRG codes (see **Table BCTx-K**).

### ***Outpatient events***

Identify all outpatient claims / encounters with a breast cancer-related diagnostic code appearing in **any** position (see **Table BCTx-E**).

### ***Procedures and laboratory***

Identify all claims / encounters with breast cancer-related CPT, HCPCs, or ICD-9 procedure codes. These codes are considered breast cancer-related regardless of the associated ICD-9 codes (see **Tables BCTx-F- through BCTx-K and BCTxM through BCTx N2**).

### ***Chemotherapy and Prescription drugs***

Identify breast cancer-related chemotherapy codes and medications during the measurement period (See **Table BCTx-L**).

## **Section 3 – Assignment of standardized prices**

Standardized prices are calculated for all of the components of care used to treat or manage the patient's condition to ensure that comparisons can be made solely on the basis of differential practice patterns and resource use. Three separate methodologies are used to derive these standardized prices: for inpatient facility charges, for ambulatory pharmacy charges (i.e., prescriptions dispensed outside the inpatient hospital setting), and for all other charges. These standardized prices are then applied to the claims identified as breast cancer-related.

### **Standard Cost Calculation**

- Step 1** Identify all claims paid for services rendered during the measurement period and with positive non-zero paid amounts for all patients, regardless as to whether they have been included in the measure population. Categorize these claims as follows (in accordance with the BETOS classification process followed in Step 3 above):
- *Inpatient Facility* (services provided by a facility during an acute inpatient hospital stay, standard price includes room and board and ancillary services)

- *Ambulatory Pharmacy* (ambulatory prescriptions included in a member's pharmacy benefit)
- *All other* (E&M, procedures, imaging, tests, DME, other, and exceptions/unclassified)

**Step 2** For each category identified, compute standardized prices. Refer to each service category's instructions (i.e., *Calculating Standard Units of Service and Total Standard Cost*) below.

**Step 3** Combine standardized prices with eligible events (e.g., through a file merge as specified in each service category's instructions).

**Step 4** For each individual claim, multiply standardized price by the number of service units identified on the claim to determine the full cost of the service, hospitalization, or prescription.

### **Calculating Standard Units of Service and Total Standard Cost: *Inpatient Facility***

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For inpatient facility costs, standardized prices are developed at the diagnosis-related group (DRG) level and – for those hospitalizations where DRG-level information is unavailable – at the ADSC level. Each is adjusted for length-of-stay (LOS) so as to more closely mirror the payment systems typically applied among commercial health plans. Both approaches use RRU HEDIS standardized daily price tables developed by NCQA.

**Step 1** Identify all inpatient stays that occurred during the measurement year. Include stays that may have started before the measurement year or ended after the close of the measurement year. Define a single, unique record describing the member's inpatient stay.

**Step 2.** Identify the primary discharge DRG. Also identify the DRG version (e.g., CMS-DRG vs. MS-DRG). Care must be taken in using the standardized price tables (specified below) to insure the data and the tables use the same DRG version.

**Step 3** Compute the stay's total LOS in days, using paid or expected-to-be-paid days only. Include all paid days in the LOS calculation, whether or not they fall outside the measurement year. Also identify the stay's LOS group based on the stay's LOS and the information contained in **Table BCTx-O** below.

**Table BCTx-O: Length of Stay Group**

LOS (Days)	LOS GRP
1	A
2	B
3-4	C
5-6	D
7-8	E
9-15	F
16 or more	G

- Step 4** Compute the LOS per diem multiplier. If the inpatient stay falls completely within the measurement year, use the total number of paid days as the per diem multiplier. If the inpatient stay does not fall completely inside the measurement year, count only the days within the measurement year (including the last day of the year) to compute the per diem multiplier.
- Step 5** Download the HEDIS RRU standardized daily price tables from the NCQA website ([www.ncqa.org](http://www.ncqa.org)) for the corresponding measurement years. Note that there is a one year lag in the file and data years (i.e. files designated 2007 are based on 2006 data). Some years may have two sets of tables if there is a significant change in DRG versions.<sup>5</sup>
- Step 6** Calculate the DRG-specific per-diem payment rate by adjusting the standard daily prices for inflation to a reference year using the medical care component of the Consumer Price Index (CPI).
- Step 7** Combine DRG-specific per-diem payment rates with the dataset containing eligible inpatient hospital events for the measure. For each event, multiply the per-diem payment rate by the event's LOS per diem multiplier to determine the event's total standard cost.

Total standard costs will not be computed using this approach for stays that have not been assigned a DRG, and for DRGs that are not assigned a standard price by HEDIS. These stays will be assigned a standard price using the ADSC method described below.

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<sup>5</sup> The project staff worked in collaboration with NCQA in development of this methodology for purposes of testing the initial set of measures. Users of the measures may need to implement their own methodology that does not rely on a price list from NCQA.

**Example<sup>6</sup>** Assume the calculated DRG-specific per-diem payment rate for DRG XXX for FY 2007 is \$900.17. An eligible member had an inpatient stay with the following characteristics:

- A principal diagnosis with an eligible ICD-9 code
- A DRG of XXX (DRG associated with an eligible inpatient stay for the episode)
- Date of admission of February 2, 2007 and date of discharge of February 9, 2007 (fiscal year 2007)
- A LOS of 8 days, and therefore a LOS per diem multiplier of 8 days

This event has a calculated total standard cost of  $\$900.17 \times 8 = \$7,201.36$ .

**Example** Again assume the calculated DRG-specific per-diem payment rate for DRG XXX for FY 2007 is \$900.17. An eligible member had an inpatient stay with the following characteristics:

- A principal diagnosis with an eligible ICD-9 code
- A DRG of XXX (DRG associated with an eligible inpatient stay for the episode)
- Date of admission of December 28, 2006 and date of discharge of January 2, 2007 (fiscal year 2007)
- A LOS of 6 days, and a LOS per diem multiplier of 2 days (January 1-2).

This event has a calculated total standard cost of  $\$900.17 \times 2 = \$1,800.34$ .

**Step 8** If DRG information is not available for a given inpatient hospitalization a method must be used that assigns prices to those hospitalizations. The methodology used in testing the initial development of the measures was to assign an Aggregate Diagnostic Service Category (ADSC) for the stay using the principal discharge diagnosis. To assign ADSC, download the ADSC Table (Table SPT-INP-ADSC) from the NCQA Web site ([www.ncqa.org](http://www.ncqa.org)) and match the principal ICD-9-CM Diagnosis code from the discharge claim to an ADSC. If the claim does not contain a DRG and the primary ICD-9-CM Diagnosis code is invalid or missing, map the inpatient stay to the ADSC Table's MISA category.<sup>7</sup> An alternative would be to create average prices from the dataset the measures are being implemented for each of the ADSC categories and discharge ICD-9-CM codes and assign those prices to missing hospitalizations.

**Step 9** Determine if the member underwent major surgery during the inpatient stay. If this

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<sup>6</sup> Figures presented in this example are arbitrary and do not reflect any particular dataset or patient. Additionally, the DRG XXX is intended to be used as an illustrative example for calculating inpatient costs. Only DRGs for eligible events for the episode should be included in this calculation.

<sup>7</sup> The project staff worked in collaboration with NCQA in development of this methodology for purposes of testing the initial set of measures. Users of the measures may need to implement their own methodology that does not rely on a price list from NCQA.

information is not available within the dataset, this may be determined using the list of codes included in a table from the NCQA Web site (Maj-Surg Table). Flag eligible members if one procedure code in the Maj-Surg-Table is present from any provider during the time period defined by the admission and discharge dates.

**Step 10** Match each ADSC, LOS per diem multiplier, and major surgery flag assignment for the stay to a value in the Table SPT-INP-ADSC to obtain the assigned standard price. For each event, multiply the per-diem payment rate by the event's LOS per diem multiplier to determine the event's total standard cost. As with the DRG method, the ADSC standard prices must be adjusted for inflation to a reference year using the CPI. Between this ADSC methodology and the previously described DRG-based methodology, each inpatient hospital stay should now have an associated standardized price.

**Example** An eligible member had an inpatient stay with the following characteristics:

- A principal diagnosis for an eligible event assigned to ADSC category Respiratory-C (RESC)
- No available valid DRG information
- Date of admission of February 2, 2007 and date of discharge of February 9, 2007
- A LOS of 8 days, and therefore LOS group E
- A major surgery event during the stay

Using Sample Table SPT-INP-ADSC, we determine this event has a standard per-diem payment rate of \$1,474.00. Therefore, this event has a calculated total standard cost of  $\$1,474 \times 8 = \$11,792$ .

### **Calculating Standard Units of Service and Total Standard Cost: Ambulatory Pharmacy**

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For ambulatory pharmacy-related costs, standardized prices are developed at the NDC level, adjusted for days supply.

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**Step 1** Identify all pharmacy services that occurred during the measurement year. The following pharmacy services should also be included:

- Prescriptions that may have been dispensed before the measurement year and had days supply that extended into the measurement year (e.g., a prescription with a dispensed date of December 15, 2007 and 30 days supply would extend 13 days into the measurement year beginning January 1, 2008)
- Prescriptions that may have been dispensed during the measurement year and had days supply that extended into the following year (e.g., a prescription with a dispensed date of December 20, 2008)

Define a single, unique record describing the pharmacy service.

- Step 2** Identify the NDC code and the days supply for each prescription, whether or not some days fall outside the measurement year.
- If the days supply is not available for a given pharmacy claim, set the claim's standard cost to be equal to its listed payment amount.
- Step 3** Compute the days supply per diem multiplier. If the prescription's days supply fall completely within the measurement year, use the claim's listed days supply as the per diem multiplier. If the prescription's days supply do not fall completely inside the measurement year, count only the days within the measurement year (including the last day of the year) to compute the per diem multiplier.
- Step 4** For each NDC, calculate the total NDC-specific payments and the total days supply across all pharmacy claims within that NDC during the measurement year. Using these totals, calculate NDC-specific per-day-supply payment rates by dividing total NDC-specific payments by total days supply for each NDC.
- Step 5** Combine NDC-specific per-day-supply payment rates with the dataset containing eligible pharmacy events for the measure. For each event, multiply the per-day-supply payment rate by the event's days supply per diem multiplier to determine the event's total standard cost.

### **Calculating Standard Units of Service and Total Standard Cost: All Other**

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For all non-inpatient hospital, non-pharmacy costs, standardized prices are developed at the procedure code and modifier level.

- Step 1** Identify all non-inpatient hospital, non-pharmacy services that occurred during the measurement year.
- Step 2** Identify the primary procedure code (CPT, HCPCs, ICD-9, etc.) and the first modifier code for each service.
- Step 3** For each procedure-modifier combination, calculate the total procedure/modifier-specific payments across all non-inpatient-hospital, non-pharmacy claims with that procedure-modifier combination as well as the frequency of the procedure-modifier combination during the measurement year. Calculate procedure/modifier-specific payment rates by dividing total procedure/modifier-specific payments by the frequency for each procedure-modifier combination.
- Step 4** Combine procedure/modifier-specific payment rates with the dataset containing eligible non-inpatient-hospital, non-pharmacy events for the measure so that each procedure-modifier combination is paired with its corresponding payment rate. This payment rate is the event's total standard cost.

## **Section 4 – Create episode specific strata**

See section 6 below.

## **Section 5 – Calculation of total individual episode costs**

The resource use identified as breast cancer-related – and to which standardized prices have been applied (i.e., the collection of eligible events) – is used to calculate individual level episode costs. The following steps are used in the calculation of total individual level costs.

Step 1: For each individual included in the episode, sum all of the total standard costs linked to breast cancer-related events occurring during the measurement period at the BETOS level. This will provide an estimate of the costs of each category of service over the measurement period.

Step 2: For each individual in the episode, sum ALL total standard costs linked to breast cancer-related events to calculate TOTAL episode costs.

Step 3: Winsorize costs at 2<sup>nd</sup> and 98<sup>th</sup> percentile

## **Section 6 – Calculation of risk adjusted costs**

No risk adjustment is done for the breast cancer treatment measure. Results are reported for groups falling into the following four strata:

- 1) Chemotherapy, with trastuzumab;  
(J code for chemotherapy or THERCLS = 21 or CPT code for chemotherapy) AND (J9355 or GENNME = “trastuzumab”) during measurement period
- 2) Chemotherapy, no trastuzumab;  
(J code for chemotherapy or THERCLS = 21 or CPT code for chemotherapy) AND NO (J9355 or GENNME = “trastuzumab”) during measurement period
- 3) No chemotherapy; and  
No J code for chemotherapy or no THERCLS = 21 or no CPT code for chemotherapy
- 4) Neoadjuvant chemotherapy  
Patients receiving chemotherapy (J code for chemotherapy or THERCLS = 21 or CPT code for chemotherapy) prior to surgery (CPTs 19120, 19125, 19126, 19160, 19162, [pre-2007 19140, 19160, 19162, 19180, 19182, 19200, 19220, 19240 OR 2007 forward 19300, 19301, 19302, 19303, 19304, 19305, 19306, 19307] or ICD-9 procedure codes 85.20,

85.21, 85.22, 85.23, 85.33, 85.34, 85.35, 85.36, 85.41, 85.42, 85.43, 85.44, 85.45, 85.46, 85.47, 85.48)

## **Section 7 – Determination of attributable provider**

Resource use and costs for breast cancer treatment episodes are calculated at the regional level. Costs of care are calculated at a system level due to the inability to measure important case-mix factors such as stage of disease and estrogen and progesterone receptor status in current administrative datasets.

## **Section 8 – Creation of result summaries**

Results are summarized and reported at the regional level. The regional results can be compared with overall national results and other regions.

## **Section 9 – Reporting**

The following section describes reports of unadjusted episode costs that were used to understand patterns of resource use associated with the episodes. Most of these reports are based on the classifications of related resource use by type-of-service category using the Berenson-Eggers Type of Services (BETOS) classification system. This system can be applied following the steps described below.

### ***Reports by Categories of Service***

For each of the claims / encounters identified for the episode's breast cancer-related resource use calculations, BETOS codes will be applied to categorize services. BETOS codes and crosswalks to procedure codes are available through the Centers for Medicare & Medicaid Services website.<sup>8</sup>

Step 1: Obtain BETOS files for the relevant year from the CMS website.

Step 2: Combine BETOS codes with eligible events (e.g., through a file merge).

Step 3: Categorize data from outpatient pharmacy files as pharmacy-related costs – these claims will not have a BETOS code to combine with the eligible events data. Similarly, categorize data from inpatient hospital files as inpatient facility-related costs.

Step 4: Categorize BETOS codes into the 7 specified “major categories”:

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<sup>8</sup> [https://www.cms.gov/HCPCSReleaseCodeSets/20\\_BETOS.asp](https://www.cms.gov/HCPCSReleaseCodeSets/20_BETOS.asp)

## Episode-based Resource Use Measures: Breast Cancer

1. Evaluation and Management (E&M)
2. Procedures
3. Imaging
4. Tests
5. Durable Medical Equipment (DME)
6. Other
7. Exceptions/Unclassified

These categories (along with categories for inpatient facility costs and pharmacy costs) will be used for reporting overall episode costs.

Step 5: Categorize any/all remaining services without corresponding BETOS codes as belonging to the Exceptions/Unclassified category.

Step 6: Create summary reports of the distribution of costs for each type of service category for all episodes.

The reports we completed to analyze this episode, relying on BETOS categories, included:

- Summaries of per-episode resource use by type of service, including mean, median, standard deviation and variance, other statistical variables: overall and for each episode stratum
- For each type-of-service category for non-inpatient, non-pharmacy claims, summaries of the 20 CPT and HCPCs codes among breast cancer-related services most commonly appearing in episodes and the 20 CPT and HCPCs codes that account for the largest proportions of the category's costs
- For each type-of-service category for non-inpatient, non-pharmacy claims, summaries of the 20 CPT and HCPCs codes among non-breast cancer-related services most commonly appearing during the measurement window and the 20 CPT and HCPCs codes that account for the largest proportions of the category's costs
- For inpatient hospitalization events, the 20 DRG codes and primary ICD-9 diagnosis codes most commonly appearing and accounting for the largest proportions of inpatient facility costs: both breast cancer-related and non-breast cancer-related
- For pharmacy claims, the 20 generic drug names and therapeutic classes most commonly appearing and accounting for the largest proportions of pharmacy costs: both breast cancer-related and non-breast cancer-related