Overview of the breast biopsy episode of care

State of Ohio

July 2017

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Overview of the breast biopsy episode of care

1. CLINICAL OVERVIEW AND RATIONALE FOR DEVELOPMENT OF THE BREAST CANCER EPISODES

There are three episodes of care covering the journey of patients at risk for breast cancer or diagnosed and treated for breast cancer: breast biopsy, breast cancer surgery, and breast medical oncology. Section 1.1 of this document, which lays out the rationale for the development of the breast cancer episodes, is therefore identical for the breast biopsy, breast cancer surgery, and breast medical oncology episodes of care.

1.1 Rationale for development of the breast cancer episodes of care

Breast cancer is the most frequently diagnosed cancer in women worldwide, with an estimated 1.7 million new cases diagnosed in 2012.[1] It is also the second most common cause of cancer death among women worldwide, with an estimated 521,900 deaths in 2012.[2] Guidelines for the diagnosis and treatment of breast cancer patients are well established.[3] Despite these clear guidelines, medical practices vary widely among providers.[4,5] Unique patient needs sometimes necessitate variation in treatment; but practice variation due to reasons not related to the patient and not concordant with clinical guidelines may lead to sub-optimal patient outcomes, higher than necessary costs, or both.

[1] American Cancer Society. Global Cancer Facts & Figures 3rd Edition. Atlanta: American Cancer Society; 2015.d

[2] Ibid

[3] "NCCN Guidelines for Patients® | Stage 1-4 Breast Cancer." NCCN Guidelines for Patients®. N.p., n.d. Web. 10 Aug. 2016.

[4] Zimmerman, C. Time trends and geographic variation in the use of minimally invasive breast biopsy. J Am Coll Surg. 2013 Apr; 216(4): 814–824

[5] Sariego, J. Regional variation in breast cancer treatment throughout the United States. Am J Surg. 2008 Oct;196(4):572-4. doi: 10.1016/j.amjsurg.2008.06.017.

About 1 in 8 women in the U.S. (about 12%) will develop invasive breast cancer during their lifetime. According to the American Cancer Society[6], nearly 250,000 new cases of invasive breast cancer will be diagnosed in the U.S. in 2016, with 9,390 new cases diagnosed in Ohio. An estimated 40,000 women will die of breast cancer in U.S. in 2016, with 1,700 deaths in Ohio.[7]

The incidence and death rates for breast cancer vary by region, race, and ethnicity. The incidence of breast cancer in Ohio is 120.5[6] (the incidence for the U.S. as a whole is 123.5), whereas the death rate for breast cancer in Ohio is 23.5[7] (the death rate for the U.S. is 21.9). Although Ohio has the 36th highest incidence rate for female breast cancer among all states in the U.S., it has the 5th highest death rate for female breast cancer.[8] Breast cancer incidence is highest in non-Hispanic Caucasian women followed by African American women and is lowest among Asian/Pacific Islander women. In contrast, breast cancer death rates are highest for African American women followed by non-Hispanic Caucasian women and are lowest among Asian/Pacific Islander women.[9]

The early stages of breast cancer are usually not symptomatic. The process of diagnosis begins with the detection of an abnormality (such as an abnormal breast mass), whether through self-examination or physical examination by a clinician or through a screening mammography. The 2015 American Cancer Society guidelines[10] recommend an annual screening mammogram for women 45 years or older, and for all women at higher than average risk. An abnormal mammogram may warrant additional workup and imaging (e.g., diagnostic mammogram, breast ultrasound). Lesions that remain suspicious after additional imaging are biopsied for a definitive diagnosis. Patients diagnosed with breast cancer may follow several treatment paths. Depending on factors such as tumor type, cancer stage, and patient preference, treatment usually involves a combination of surgery (breast-conserving surgery or

6 Incidence rates, 2008-2012: per 100,000, age adjusted to the 2000 US standard population.

7 Death rates, 2008-2012: per 100,000, age adjusted to the 2000 US standard population

8 Ibid

9 Ibid

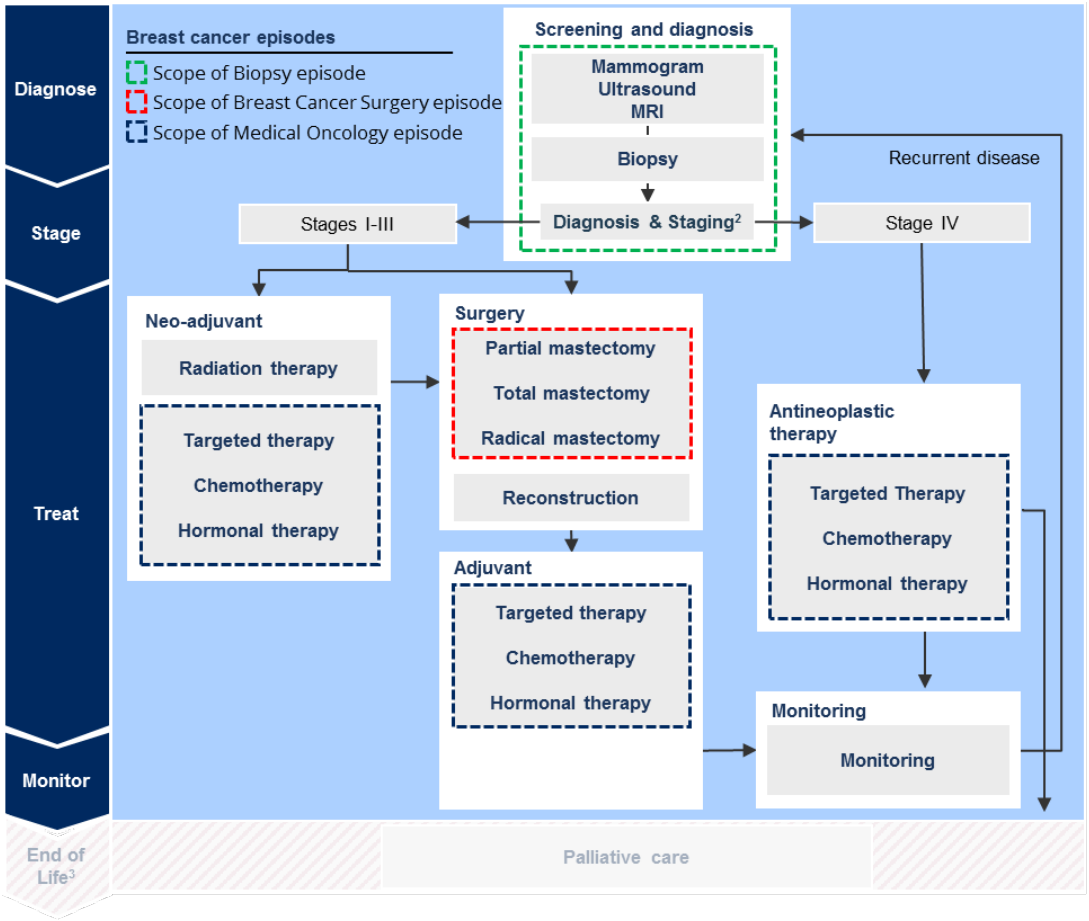
10 American Cancer Society (2015). American Cancer Society recommendations for early breast cancer detection in women without breast symptoms, last revised 10/20/2015. Available at http://www.cancer.org/cancer/breastcancer/moreinformation/breastcancerearlydetection/breast-cancer-early-detection-acs-recs# Accessed August 08, 2016

mastectomy), systemic therapy (chemotherapy, targeted therapy, and/or hormonal therapy), and/or radiation therapy. Patients may also elect to undergo breast reconstruction either at the time of surgery or at a later time.

As part of a concerted effort aimed at improving overall breast cancer diagnosis and treatment for Ohio Medicaid patients, three episodes of care related to breast cancer are being deployed to cover the entire patient journey: breast biopsy, breast cancer surgery, and a medical oncology episode specific to breast cancer. The rationale is threefold. First, the complexity of breast cancer care requires multiple types of specialists to assume primary accountability for the patient for different portions of care. Second, at any point in time, the overall patient journey may require a different mix of specialists to be involved; having multiple episodes acknowledges that varied involvement over time. Third, the coordination of care across the patient journey is best enabled by having each key specialist incentivized to collaborate with others, as opposed to having a single type of specialist solely accountable. Creating three separate but related episodes of care enables the "ecosystem" of clinicians critical to breast cancer care to drive value-based outcomes both within and across the relevant specialties.

Despite being a potential part of the breast cancer patient journey, a specific episode targeting radiation therapy is not currently within the scope of these three episodes of care. The variable timing of when radiation therapy is delivered with regard to surgical or medical oncology treatment depends on patient-specific factors (e.g., cancer stage), making it difficult to accurately evaluate value and variation in the context of one of the existing episodes. Instead, coordination of care relating to radiation is addressed through quality metrics that characterize transitions of care in the existing episodes. At some point in the future, the potential exists for the cost and quality of radiation therapy to be addressed through a separate radiation episode. Exhibit 1 illustrates the scope of each of these episodes.

EXHIBIT 1 – OVERVIEW OF BREAST CANCER EPISODES[1]



1 The above exhibit represents the most common patient pathways (specific patient pathways may be different from the pathways shown above based on a patient's clinical condition); In order to capture the full variety of potential patient journeys, some non-standard care may be reflected in the pathways in the exhibit (e.g., use of neo-adjuvant radiation therapy is rarely recommended in the treatment of breast cancer patients)

2 Some staging procedures excluded from the scope of the biopsy episode

3 End of life care is not currently addressed in the suite of episodes

Source: National Cancer Institute, American Cancer Association, NCCN, ASCO, clinical experts

Implementing the breast cancer episodes will provide incentives for evidence-based, guideline-concordant care through an outcomes-based payment model. Alongside the other episodes of care in the breast cancer suite, other episodes of care outside breast cancer, and patient-centered medical homes, the breast biopsy episode will contribute to a model of care delivery that benefits patients through improved care quality, improved long-term health outcomes, and lower overall cost of care.

1.2 Clinical overview and typical patient journey for a breast biopsy procedure

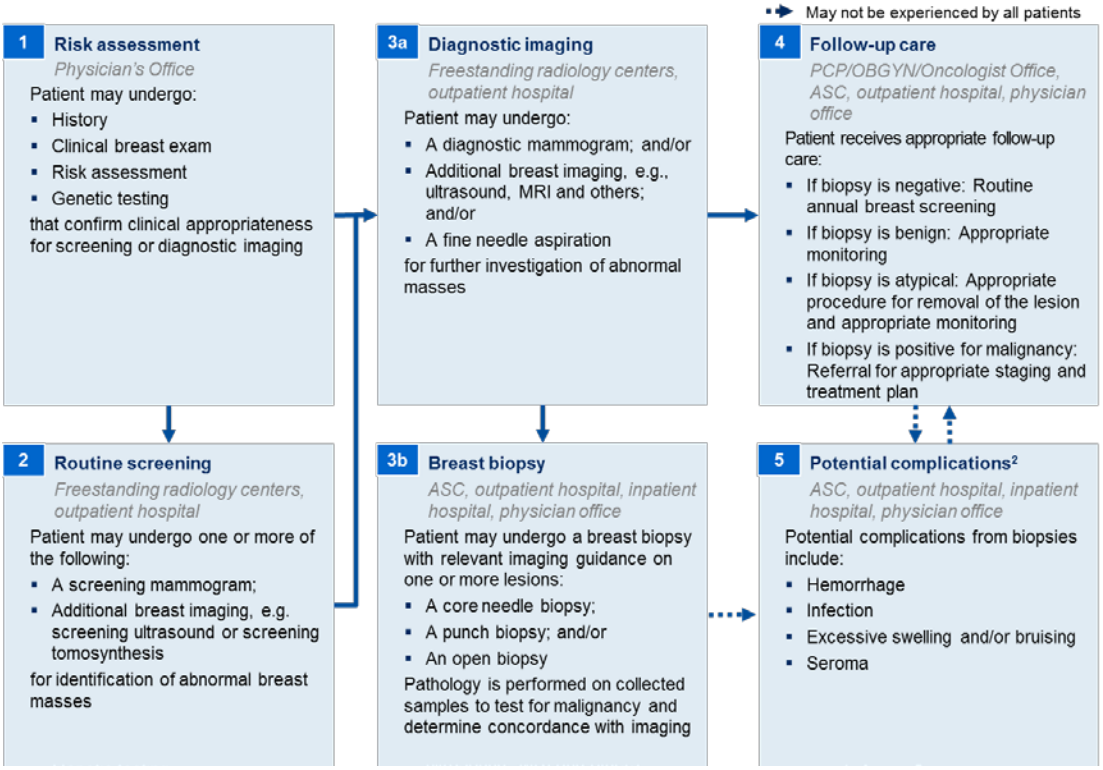
A breast biopsy is the surgical removal of a small sample of breast tissue or cells to be tested for breast cancer.

As depicted in Exhibit 2, the patient journey begins when a patient qualifies for breast cancer screening (e.g., based on age, family history) or requires workup for a suspicious breast lesion. The provider may perform an initial breast cancer risk assessment, screening exam, and/or diagnostic workup. In cases where diagnostic imaging results in abnormal findings, a breast biopsy is warranted for definitive diagnosis.

The biopsy procedure is performed with local or general anesthesia provided to the patient. After the procedure, the patient is typically discharged on the same day. Tissue samples are sent to pathology for evaluation of malignancy. A repeat breast biopsy may be required in the event of that the pathology results and diagnostic imaging are discordant.

Follow-up care varies depending on the patient's needs and biopsy results. A negative biopsy may result in a recommendation for return to routine breast cancer screening. If the biopsy results are positive for malignancy, the patient is referred for appropriate staging and treatment planning for breast cancer. Complications such as infection, swelling, or cosmetic deformities may occur following the procedure.

EXHIBIT 2 – BREAST BIOPSY PATIENT JOURNEY[1]



1 The above exhibit represents the most common patient pathways (specific patient pathways may be different from the pathways shown above based on patients clinical condition). In order to capture the full variety of potential patient journeys, some non-standard care may be reflected in the pathways in the exhibit (e.g., use of fine needle aspiration as initial evaluation). This exhibit is not intended to be used as a clinical guideline

2 List of potential complications is not exhaustive

SOURCE: National Cancer Institute, American Cancer Association

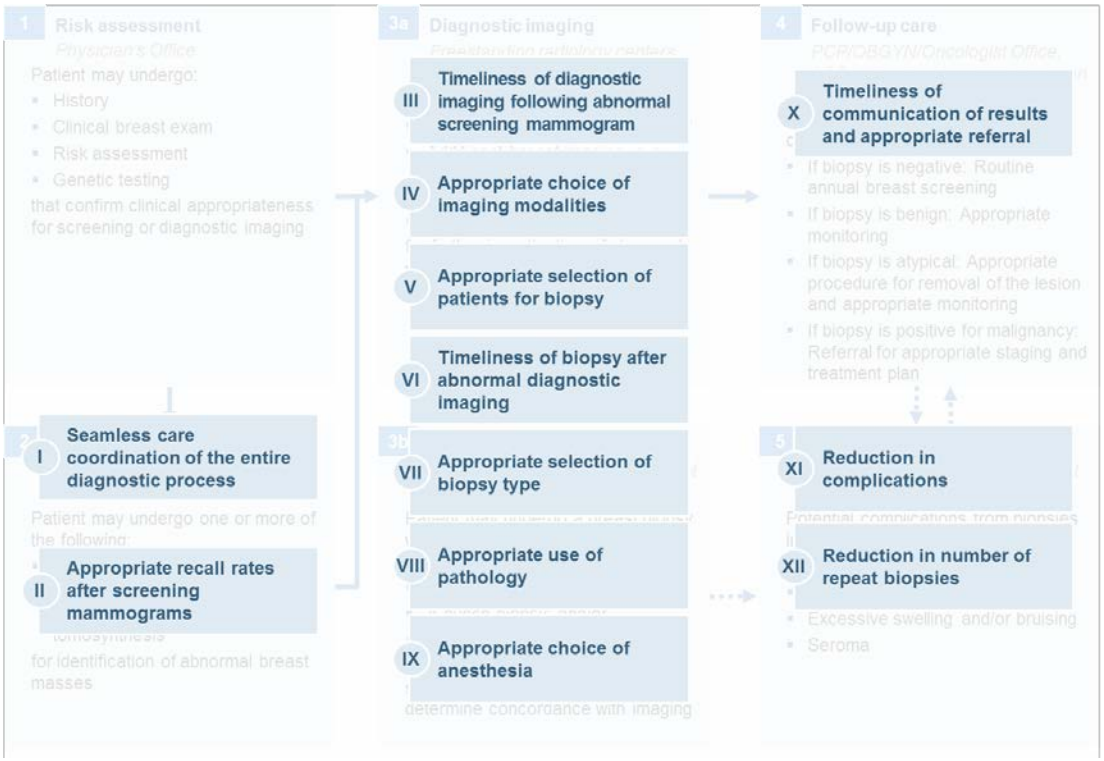
1.3 Potential sources of value within the breast biopsy patient journey

Within the breast biopsy patient journey, providers have several opportunities to improve the quality of care and reduce unnecessary spend associated with the episode (see Exhibit 3). An important source of value is the appropriate choice of type of biopsy, which has a significant influence on the quality of diagnosis and associated costs.[11] Additionally, providers can utilize appropriate imaging studies prior to the

11 Pagni, P. Use of core needle biopsy rather than fine-needle aspiration cytology in the diagnostic approach of breast cancer. Case Rep Oncol. 2014 May-Aug; 7(2): 452–458.

breast biopsy and ensure the quality of care by influencing the timeliness of the breast biopsy following the preceding diagnostic workup. Based on the patient's clinical status and diagnosis, providers can also deliver more efficient and timely care by accelerating the start of the staging and cancer treatment process. Overall, providers can bring about an improvement in the coordination of breast cancer diagnostic care and reduction in repeat biopsy procedures and complications.

EXHIBIT 3 – BREAST BIOPSY SOURCES OF VALUE



2. OVERVIEW OF THE BREAST BIOPSY EPISODE DESIGN

2.1 Episode Trigger

The breast biopsy episode is triggered by professional claim for a breast biopsy procedure that occurs in an inpatient, outpatient, or office setting. The range of procedure codes that trigger an episode includes CPT codes for core needle, punch and open biopsies. If the triggering claim is for a punch biopsy, a diagnosis of a breast-related symptom is also required on the claim to confirm the biopsy was a breast biopsy. Fine needle aspiration biopsies are not included as episode triggers, based on analyses that show that patients who only have this procedure tend to have a different clinical pathway and spend profile as compared to patients with other types

of biopsies. A complete list of trigger procedure codes is included in Table 1a in the Appendix, and breast-related symptom diagnosis codes to confirm a punch biopsy can be found in Table 1b. See Exhibit 4 in the Appendix for an analysis of triggers.

2.2 Principal Accountable Provider

The principal accountable provider (PAP) is the person or entity best positioned to influence the patient journey and the clinical decisions made throughout the course of the episode. For the breast biopsy episode, the PAP is the clinician or group performing the breast biopsy. Because this provider is directly involved in the procedure, he or she is in the best position to promote adherence to guidelines, prevent complications, and influence other sources of value (see Exhibit 5 in the Appendix for the distribution of average non-risk adjusted spend by PAP).

Although there are some services rendered during the patient journey that may not be performed directly by the PAP, the PAP is selected as the person or entity best positioned to influence the patient journey and clinical decisions made throughout the course of the episode. The episode is designed to reward providers for coordinating care with high-quality, efficient providers in their medical neighborhood, including some relevant services that may occur before the PAP sees the patient for the first time as well as those occurring after the triggering procedure.

2.3 Episode Duration

The breast biopsy episode begins 90 days prior to the triggering procedure (called the “pre-trigger window”), includes the day of the procedure (called the “trigger window”), and ends 30 days after discharge (called the “post-trigger window”). The 90-day pre-trigger window is considered an appropriate period of time to capture the majority of pre-operative diagnostics and workup.

2.4 Included Services

The episode model is designed to address spend for care and services directly related to the diagnosis, treatment, and immediate recovery phase of the patient journey. Each period of the patient journey, or episode “window,” has a distinct claim inclusion logic derived from two major criteria: 1) that the type of included care and services must correspond to that period of the patient journey and 2) that the included care and services are understood to be directly or indirectly influenced by the PAP during that period.

The breast biopsy episode is comprised of three distinct windows for the purpose of spend inclusions: a pre-trigger window, a trigger window, and a post-trigger window. During the pre-trigger window, all related diagnostic work-up (e.g., diagnostic mammogram, genetic testing, fine needle aspiration) and pre-operative preparation (e.g., E&M visits to the PAP, anesthesia) is included.

During the trigger window—when the procedure itself occurs—all spend is included (including medical and drug spend). During the post-trigger window (one through 30 days following the procedure), specific imaging and testing (e.g., breast MRI) and related follow-up care (e.g., specific pathology, medication management, E&M visits, care for complications) are included. Spend not included in the total spend of the episode includes care associated with select conditions or procedures related to breast cancer management (e.g., mastectomy, lymph node dissection, antineoplastic therapy, and radiation therapy) or specific procedures directly related to staging (e.g. lymph node biopsy).

The total episode spend is calculated by adding up the spend amounts on all of the individual claims that were included in each of the episode windows.

2.5 Episode Exclusions and Risk Factors

To ensure that episodes are comparable across patient panels, select risk factors and exclusions are applied before assessing PAP performance. In the context of episode design, risk factors are attributes (e.g., age) or underlying clinical conditions (e.g., pregnancy, family history of breast cancer) that are likely to impact a patient's course of care and the spend associated with a given episode.

Risk factors are selected via a standardized and iterative risk-adjustment process based on Ohio-specific regression analysis that gives due consideration to clinical relevance, statistical significance, and other contextual factors.[12] Based on the selected risk factors, each episode is assigned a risk score. The total episode spend and the risk score are used to arrive at an adjusted episode spend, which is the spend on which providers are compared to each other. A detailed list of risk factors for the breast biopsy episode is included in Table 2 and analysis of these risk factors is in Exhibit 6 in the Appendix.

By contrast, an episode is excluded from a patient panel when the patient has clinical factors that suggest the patient has experienced a distinct or different journey and/or

[12] Garrett B., et al. (2014). Risk adjustment for retrospective episode-based payment: Guiding principles and proposed methodology. McKinsey Healthcare Systems and Services Practice. Available at http://healthcare.mckinsey.com/risk-adjustment-retrospective-episode-based-payment Accessed July 21, 2016

which drive significant increases in spend relative to the average patient. In addition, there are several "business-related" exclusions relating to reimbursement policy (e.g., whether a patient sought care out of state), the completeness of spend data for that patient (e.g., third-party liability or dual eligibility), and other topics relating to episode design and implementation, such as overlapping episodes (e.g. patients receiving either surgical or antineoplastic treatment for breast cancer during the post-trigger window), during the comparison period. Episodes with no exclusions are known as "valid" and used for provider comparisons. Episodes that have one of any of the exclusions are known as "invalid" episodes.

For the breast biopsy episode, both clinical and business exclusions apply. Several of the business and clinical exclusions (e.g., dual Medicare and Medicaid eligibility, patient left against medical advice) are standard across most episodes while others relate to the specific scope of the episode design. Clinical exclusions such as concurrent mastectomy during the trigger window, or active treatment for breast cancer in the post-trigger window are currently implemented as exclusions. A detailed list of business and clinical exclusions is included in Table 3, and analysis of these exclusions is in Exhibit 7 in the Appendix.

2.6 Quality and Utilization Metrics

To ensure the episode model incentivizes quality care, the breast biopsy episode has select quality and utilization metrics. These are calculated for each PAP meeting the minimum threshold for valid episodes.

The breast biopsy episode has five quality and utilization metrics. One is linked to performance assessment, meaning that performance thresholds on these metrics must be met for the episodes to be eligible for positive incentive payments within the episode model. The specific threshold amount will be determined during the informational reporting period. Four of the quality metrics are for informational purposes only. The metric tied to positive incentive payments is timely diagnostic workup rate during the 45 days before the triggering biopsy. Informational metrics include the rate of core needle biopsy procedures, rate of surgical complications, the rate of subsequent biopsy or excision, and the rate of appropriate genetic testing. A complete list of quality metrics is provided in Table 4, and analysis of these quality and utilization metrics is in Exhibit 8 in the Appendix.

3. APPENDIX: SUPPORTING INFORMATION AND ANALYSES

Table 1a – Episode triggers

Trigger group	Trigger codes (CPT codes)	Description
Core needle biopsy	19081	Core needle biopsy with stereotactic guidance
	19083	Core needle biopsy with US guidance
	19085	Core needle biopsy with MRI guidance
	19100	Core needle biopsy with no image guidance
	19102	Core needle biopsy with image guidance
	19103	Core needle biopsy with vacuum assistance and image guidance
Open biopsy	19101	Open biopsy, incisional
	19120	Open biopsy, excisional
	19125	Open biopsy, excisional with radiological marker
Punch biopsy[13]	11100	Punch biopsy, subcutaneous tissue and/or mucous membrane

Table 1b – Episode triggers (Diagnosis codes related to breast cancer or its symptoms)

Trigger group	Trigger codes (ICD-9 Dx codes)	Description
Breast cancer	1740	Malignant Neoplasm Of Nipple And Areola Of Female Breast
	1741	Malignant Neoplasm Of Central Portion Of Female Breast
	1742	Malignant Neoplasm Of Upper-Inner Quadrant Of Female Breast
	1743	Malignant Neoplasm Of Lower-Inner Quadrant Of Female Breast
	1744	Malignant Neoplasm Of Upper-Outer Quadrant Of Female Breast
	1745	Malignant Neoplasm Of Lower-Outer Quadrant Of Female Breast

[13] A diagnosis code from Table 1b (related to breast cancer or its symptoms) is also required on the professional claim when the triggering procedure is a punch biopsy.

Trigger group	Trigger codes (ICD-9 Dx codes)	Description
	1746	Malignant Neoplasm Of Axillary Tail Of Female Breast
	1748	Malignant Neoplasm Of Other Specified Sites Of Female Breast
	1749	Malignant Neoplasm Of Breast (Female) Unspecified Site
	1750	Malignant Neoplasm Of Nipple And Areola Of Male Breast
	1759	Malignant Neoplasm Of Other And Unspecified Sites Of Male Breast
	19881	Secondary Malignant Neoplasm Of Breast
	217	Benign Neoplasm Of Breast
	2290	Benign Neoplasm Of Lymph Nodes
	2330	Carcinoma In Situ Of Breast
	2383	Neoplasm Of Uncertain Behavior Of Breast
Breast cancer-related signs and symptoms	2393	Neoplasm Of Unspecified Nature Of Breast
	6100	Solitary Cyst Of Breast
	6101	Diffuse Cystic Mastopathy
	6102	Fibroadenosis Of Breast
	6103	Fibrosclerosis Of Breast
	6104	Mammary Duct Ectasia
	6108	Other Specified Benign Mammary Dysplasias
	6109	Benign Mammary Dysplasia Unspecified
	6110	Inflammatory Disease Of Breast
	6111	Hypertrophy Of Breast
	6112	Fissure Of Nipple
	6113	Fat Necrosis Of Breast
	6114	Atrophy Of Breast
	6115	Galactocele
	6116	Galactorrhea Not Associated With Childbirth
	61171	Mastodynia
	61172	Lump Or Mass In Breast
	61179	Other Signs And Symptoms In Breast
	61181	Ptosis Of Breast
	61182	Hypoplasia Of Breast
	61189	Other Specified Disorders Of Breast
	6119	Unspecified Breast Disorder
	7866	Swelling Mass Or Lump In Chest
	79380	Unspecified (Abnormal) Mammogram
	79381	Mammographic Microcalcification

Trigger group	Trigger codes (ICD-9 Dx codes)	Description
	79382	Inconclusive Mammogram
	79389	Other (Abnormal) Findings On Radiological Examination Of Breast
	9220	Contusion Of Breast
Breast screening	V7610	Breast Screening Unspecified
	V7611	Screening Mammogram For High-Risk Patient
	V7612	Other Screening Mammogram
	V7619	Other Screening Breast Examination

Table 2 – Episode risk factors

Risk factor	Timeframe
Benign neoplasm of uterus	During the episode window or during the 365 days before the episode window
Coagulation and hemorrhagic disorders	During the 365 days before the episode window
Chronic obstructive pulmonary disease and bronchiectasis	During the episode window or during the 365 days before the episode window
Diseases of white blood cells	During the 365 days before the episode window
Family history of breast cancer	During the episode window or during the 365 days before the episode window
Family history of ovarian cancer	During the episode window or during the 365 days before the episode window
Obesity	During the episode window or during the 365 days before the episode window
Peri-; endo-; and myocarditis; cardiomyopathy (except that caused by tuberculosis or sexually transmitted disease)	During the episode window or during the 365 days before the episode window
Phlebitis; thrombophlebitis and thromboembolism	During the 365 days before the episode window
Secondary malignancy of axillary lymph nodes	During the episode window or during the 365 days before the episode window
Secondary malignancy (except axillary lymph nodes, breast)	During the episode window or during the 365 days before the episode window
Spine disorders	During the 365 days before the episode window

Table 3 – Potential episode exclusions

Exclusion type	Episode exclusion	Description	Relevant time period
Business exclusion	Dual	An episode is excluded if the patient had dual coverage by Medicare and Medicaid	During the episode window
	FQHC/RHC	An episode is excluded if the PAP is classified as a federally qualified health center or rural health center	During the episode window
	Incomplete	An episode is excluded if the non-risk adjusted episode spend (not the risk-adjusted episode spend) is less than the incomplete episode threshold	During the episode window
	Enrollment	Patient is not enrolled in Medicaid	During the episode window
	Long Hospitalization	An episode is excluded if the patient has one or more hospital admissions for a duration greater than 30 days	During the episode window
	Long Term Care	An episode is excluded if the patient has one or more long-term care claim detail lines which overlap the episode window	During the episode window
	Multi-Payer	An episode is excluded if a patient changes enrollment between FFS and an MCP or between MCPs	During the episode window
	No DRG	An episode is excluded if a DRG-paid inpatient claim is missing the APR-DRG and severity of illness	During the episode window
	No PAP	An episode is excluded if the PAP cannot be identified	During the episode window
	Out of state	PAP operates out of state	N/A
	Third party liability	An episode is excluded if third-party liability charges are present on any claim or claim detail line or if the patient has relevant third-party coverage at any time	During the episode window
	Cardiac arrest	Patient has diagnosis of cardiac arrest	During the episode or up to 365 days before

Exclusion type	Episode exclusion	Description	Relevant time period
			the start of the triggering event
	Coma	Patient has diagnosis of coma during the episode	During the episode or up to 365 days before the start of the triggering event
	Cystic Fibrosis	Patient has diagnosis of cystic fibrosis during the episode	During the episode or up to 365 days before the start of the triggering event
	End stage renal disease (ESRD)	Patient has diagnosis or procedure for end-stage renal disease	During the episode or up to 365 days before the start of the triggering event
	HIV	Patient has diagnosis of HIV	During the episode or up to 365 days before the start of the triggering event
Standard clinical exclusion[14]	Meningitis or encephalitis	Patient has diagnosis of meningitis or encephalitis	During the episode window or during 365 days before the start of the triggering event
	Multiple Sclerosis	Patient has diagnosis of multiple sclerosis	During the episode window or during 365 days before the start of the triggering event
	Transplant	An episode is excluded if a patient has an organ transplant	During the episode or up to 365 days before the start of the triggering event
	Paralysis	Patient has diagnosis of paralysis	During the episode or up to 365 days before

[14] Active cancer treatment is not included as a clinical exclusion for the Breast cancer medical oncology episode

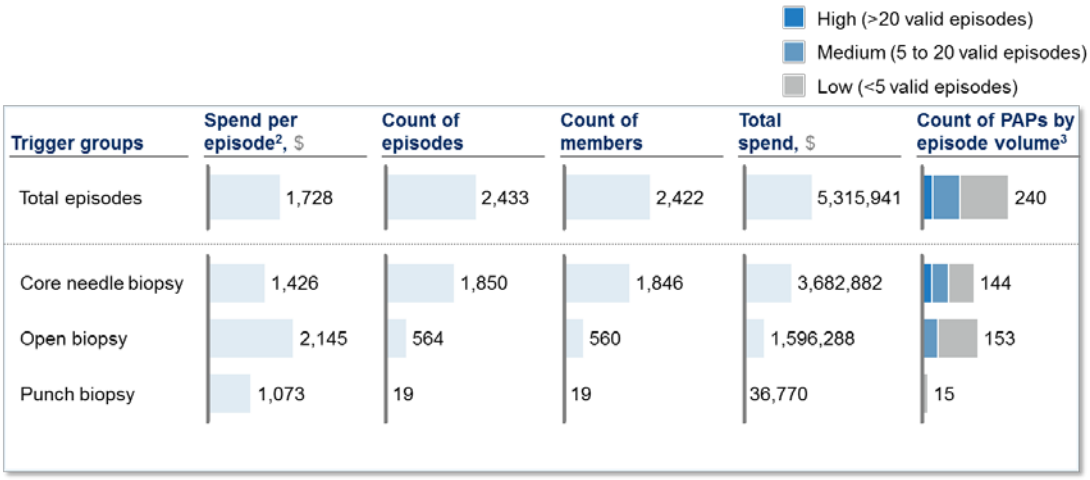
Exclusion type	Episode exclusion	Description	Relevant time period
			the start of the triggering event
	Tuberculosis	Patient has diagnosis of tuberculosis	During the episode or up to 365 days before the start of the triggering event
	Death	An episode is excluded if the patient has a discharge status of “expired” on any inpatient or outpatient claim	During the episode window
	Left Against Medical Advice	Patient has discharge status of “left against medical advice”	During the episode window
Episode-specific exclusions	Age	Patient is younger than 13 years or older than 64 years	As of episode start date
	Adverse effects of medical care	Patient has diagnosis of adverse effects of medical care	During the 365 days before the start of the triggering event
	Breast cancer treatment	Patient received treatment for active cancer	During the post-trigger window
	Concurrent mastectomy	Patient has a procedure for mastectomy	During the trigger window
	Ectopic pregnancy	Patient has diagnosis of ectopic pregnancy	During the episode or up to 365 days before the start of the triggering event
	Induced abortion	Patient has diagnosis of induced abortion	During the episode or up to 365 days before the start of the triggering event
	Male	Patient is male	N/A
	Other CNS infection and poliomyelitis	Patient has diagnosis of other CNS infection or poliomyelitis	During the episode or up to 365 days before the start of the triggering event
	Peritonitis and intestinal abscess	Patient has diagnosis of peritonitis or intestinal abscess	During the 365 days before the start of the triggering event
	Respiratory distress syndrome	Patient has diagnosis of respiratory distress syndrome	During the episode or up to 365 days before

Exclusion type	Episode exclusion	Description	Relevant time period
			the start of the triggering event
	Spinal cord injury	Patient has diagnosis of spinal cord injury	During the episode or up to 365 days before the start of the triggering event
	Multiple comorbidities	Patient is affected by too many risk factors to reliably risk adjust the episode spend	During the episode or up to 365 days before the start of the triggering event
Outlier	High outlier	An episode is excluded if the risk-adjusted episode spend (not the non-risk adjusted episode spend) is greater than the high outlier threshold	During the episode or up to 365 days before the start of the triggering event

Table 4 – Episode quality and utilization metrics (PAP level)

Metric type	Quality metric	Description	Relevant time period
Tied to incentive payments	Timely diagnostic work-up rate	Percent of valid episodes with diagnostic mammogram	During the 45 days prior to the triggering biopsy
Informational	Core needle biopsy rate	Percent of valid episodes triggered on core needle biopsies	Trigger window
Informational	Surgical complications rate	Percent of valid episodes with a surgical complication (e.g. hemorrhage, infection)	During the trigger or post-trigger window
Informational	Repeat biopsy/subsequent excision rate	Percent of valid episodes with a subsequent breast biopsy or excision	During the post-trigger window (30-days)
Informational	Genetic testing rate	Percent of valid episodes where patients with documented family history of breast or ovarian cancer received genetic testing	During the episode window

EXHIBIT 4 – BREAST BIOPSY EPISODE TRIGGER GROUPS[1]

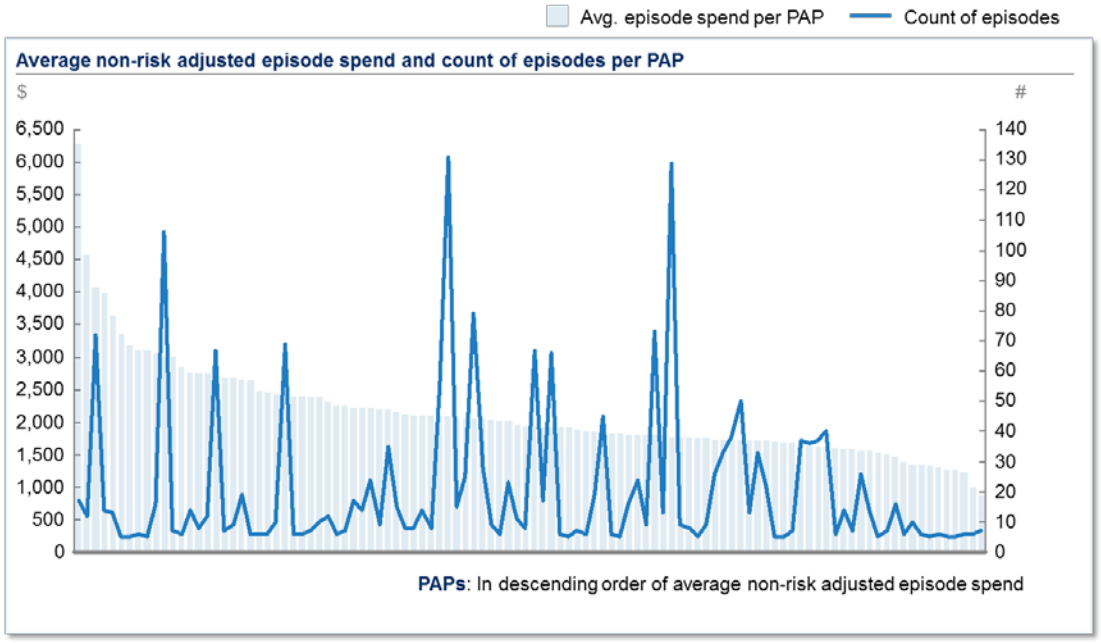


Trigger groups	Spend per episode[2], $	Count of episodes	Count of members	Total spend, $	Count of PAPs by episode volume[3]
Total episodes	1,728	2,433	2,422	5,315,941	240
Core needle biopsy	1,426	1,850	1,846	3,682,882	144
Open biopsy	2,145	564	560	1,596,288	153
Punch biopsy	1,073	19	19	36,770	15

1. For valid episodes (2,433 episodes) across 240 PAPs; valid episodes do not include episodes with business (e.g., third-party liability, dual eligibility) or clinical exclusions (e.g., ESRD); count of PAPs includes valid PAPs (e.g. ≥ 5 valid episodes) and invalid PAPs (e.g. < 5 valid episodes)
2. Median spend based on the current episode algorithm
3. Low volume is defined as PAPs with less than five valid episodes, Medium volume as PAPs with five to 20 valid episodes and High volume as PAPs with more than 20 valid episodes

SOURCE: OH claims data, episodes ending between 1/1/2014 and 12/31/2014

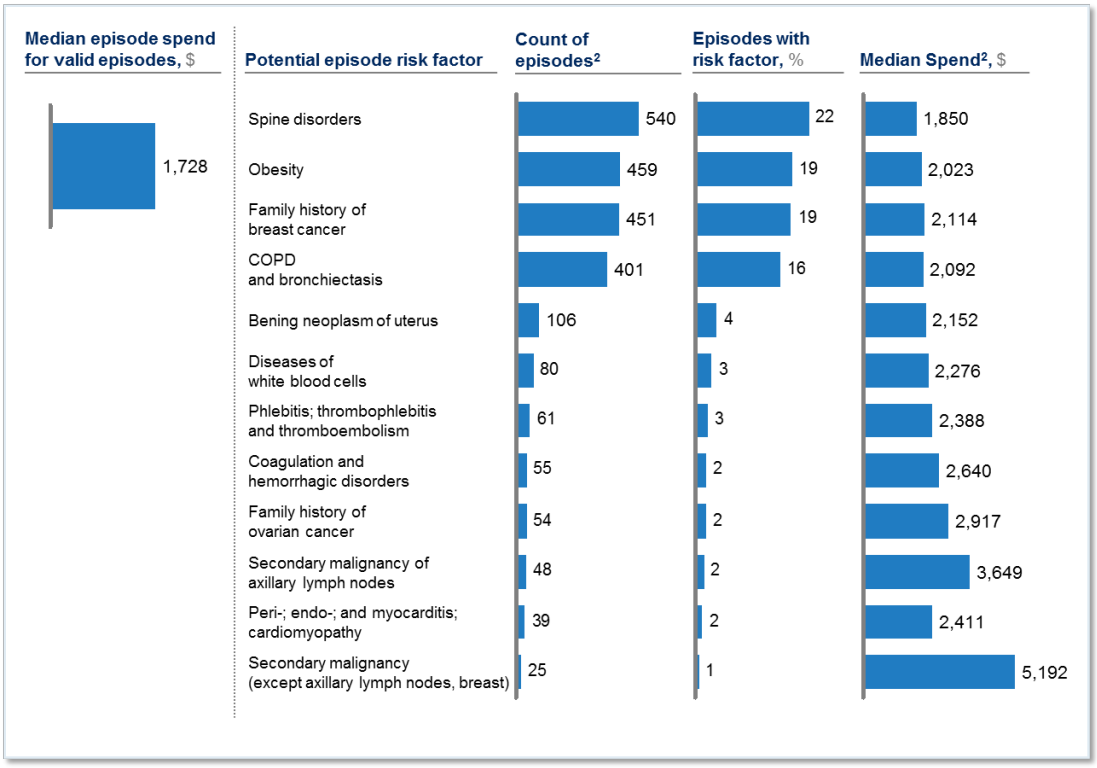
EXHIBIT 5 – DISTRIBUTION OF NON-RISK ADJUSTED AVERAGE EPISODE SPEND AND COUNT BY PAP[1]



1. For valid episodes (2,197) across valid PAPs (106); valid episodes do not include episodes with business (e.g., third-party liability, dual eligibility) or clinical exclusions (e.g., ESRD); valid PAPs are physicians with five or more episodes during 1/1/2014 to 12/31/2014 period. Valid episodes for invalid PAPs (those with less than five valid episodes) are not included in this analysis.

SOURCE: OH claims data, episodes ending between 1/1/2014 and 12/31/2014

EXHIBIT 6 – EPISODE COUNT AND SPEND BY POTENTIAL EPISODE RISK FACTOR[1]

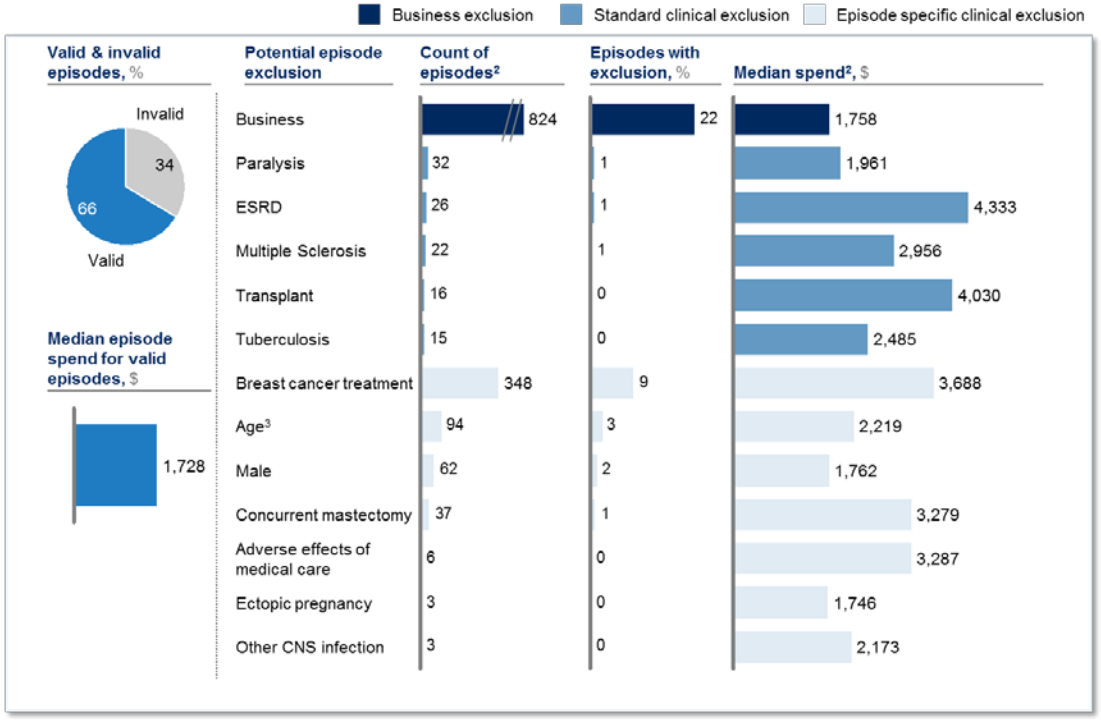


1 Showing the 12 factors that were statistically significant in the risk model for this episode; 264 valid episodes across all PAPs; valid episodes do not include those with business (e.g., third-party liability, dual eligibility) or clinical exclusions (e.g., HIV)

2 For episodes with this potential risk factor; one episode can have multiple risk factors

SOURCE: OH claims data with episodes ending between 1/1/2014 and 12/31/2014

EXHIBIT 7 – EPISODE COUNT AND SPEND BY POTENTIAL EPISODE EXCLUSION[1]



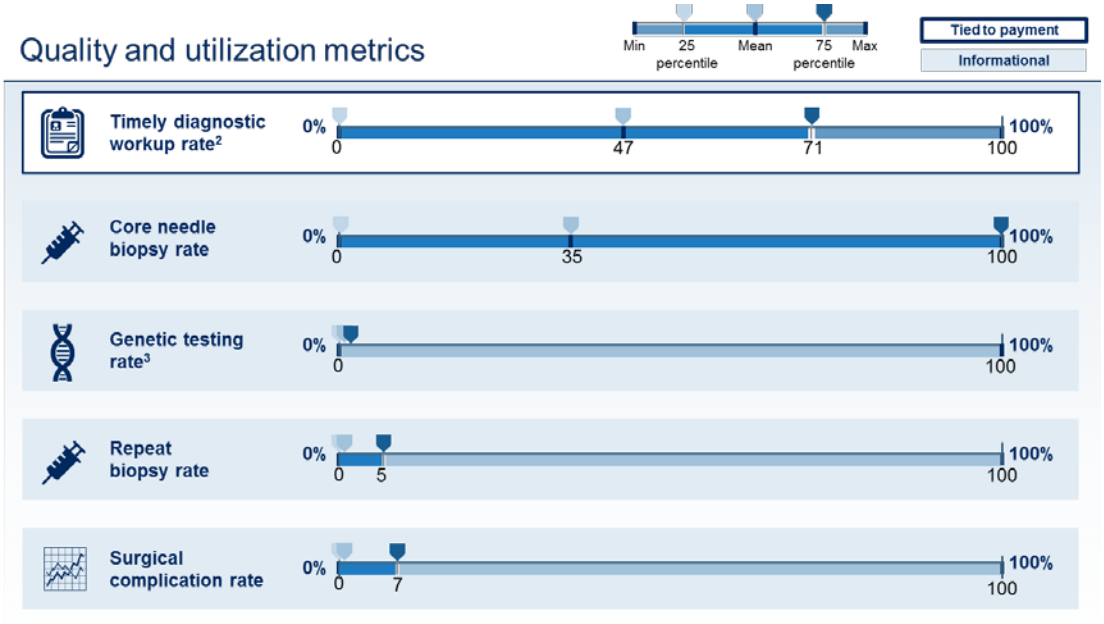
1 Showing a select number of potential exclusions

2 For episodes with this potential exclusion; one episode can have multiple exclusions

3 Age includes patients under 13 years or over 64 years of age

SOURCE: OH claims data with episodes ending between 1/1/2014 and 12/31/2014

EXHIBIT 8 - PAP PERFORMANCE ON PROPOSED EPISODE QUALITY AND UTILIZATION METRICS[1]



1 For valid episodes (2,197) across PAPs with 5 or more valid episodes (106); valid episodes for PAPs with 4 or less episodes are not included in this analysis; valid episodes do not include those with business (e.g., third-party liability, dual eligibility) or clinical exclusions (e.g., ESRD)

2 Diagnostic workup includes diagnostic mammogram in the 45 days prior to the triggering biopsy

3 Genetic testing rate for patients with documented family history of breast or ovarian cancer

SOURCE: OH claims data with episodes ending between 1/1/2014 and 12/31/2014