Client: HEALTH BENCHMARKS, INC STANDARD ALGORITHM

Measure Title: RADIATION THERAPY FOLLOWING BREAST CONSERVING SURGERY

Disease State: Cancer

Indicator Classification1: Disease Management

Strength of Recommendation2: A

Organizations Providing Recommendation:
- American College of Surgeon’s Commission on Cancer
- American Society of Clinical Oncology
- Institute for Clinical Systems Improvement
- National Comprehensive Cancer Network
- National Quality Forum

Clinical Intent: To ensure that all eligible women who underwent breast conserving surgery receive follow up radiation therapy within a clinically appropriate timeframe.

Background:

Disease Burden:
- The American Cancer Society estimated that there would be approximately 212,930 new cases and 40,870 deaths from invasive breast cancer in the United States in 2005.[1]
- Breast cancer is the most commonly diagnosed cancer, and the second largest cause of cancer deaths (behind lung cancer) in women.[1]

Reason for Indicated Intervention or Treatment:
- Women undergoing breast-conserving therapy have an enhanced quality of life compared to those who undergo mastectomy.[2, 3] In the United States, breast conserving treatment has become the recommended treatment option for women with early breast cancer.[4]
- Patients not undergoing radiotherapy after breast-conserving therapy have a large increase in the risk of ipsilateral breast cancer recurrence, and a small increase in the risk of mortality.[5]

Evidence Supporting Intervention or Treatment:
- A meta-analysis of 15 randomized controlled trials with 9,422 patients showed that the relative risk of ipsilateral breast tumor recurrence after breast-conserving therapy in patients treated with no radiotherapy versus with radiotherapy was 3.0 (95% confidence interval [CI] of 2.65 to 3.40). In addition, an analysis of 13 randomized controlled trials with 8,206 patients showed a relative risk of mortality of 1.086 (95% CI of 1.003 to 1.175) if no radiotherapy was given.[5]
- Another meta-analysis of 9 randomized controlled trials with 4,891 patients revealed no apparent difference in total mortality (22.9%
versus 22.9%) in patients receiving mastectomy versus breast-conserving therapy plus radiotherapy. Similarly, there was no difference in survival among approximately 3,100 women in 7 randomized controlled trials comparing the two treatment options.[7]

- A large review to support new practice guidelines concluded that breast conserving surgery with axillary dissection and radiotherapy provided comparable overall and disease free survival to modified radical mastectomy.[8]

- The National Cancer Institute concluded that to date there is no consensus regarding a reliable algorithm to identify subgroups of patients who undergo lumpectomy for breast cancer and are at such low risk of local recurrence that postoperative radiation therapy can be omitted. Additionally, there is no subset of patients identified in prospective randomized control trials that did not benefit from the addition of radiation therapy to lumpectomy in the management of breast cancer.[9]

Clinical Recommendations

- Through a collaboration of The National Comprehensive Cancer Network (NCCN), the American Society of Clinical Oncology (ASCO), and the Commission on Cancer (CoC), the 2007 Clinical Practice Guidelines in Oncology were developed and recommend that women undergoing breast-conserving therapy receive post-operative radiotherapy within one year of surgery. This guideline was also endorsed by the National Quality Forum.[10]

- The Institute for Clinical Systems Improvement (ICSI) guideline for breast cancer treatment recommends post-operative radiation for patients undergoing breast conserving therapy.[11]

Source
Health Benchmarks, Inc.

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encounters/Claims Criteria</td>
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*Code range was retired, but is still appropriate for retrospective analysis
## Denominator Exclusion

### Denominator Exclusion Definition
Women who had evidence of pregnancy 0-12 months after the index date, women who underwent a mastectomy 0-12 months after the index date, women who were diagnosed with scleroderma or lupus any time in the member’s history, women who underwent an additional excision procedure 0-12 months after the index date, women who were diagnosed with other cancers anytime in the member’s history, or women who were diagnosed with carcinoma of the breast during the 1 year period beginning 2 years prior to the measurement year.

### Denominator Exclusion Claims Criteria
- ICD-9 surgical proc code(s): 69.0x, 72.xx-75.xx, 66.62, 85.20, 85.21, 85.33-85.36, 85.41-85.48
- CPT-4 code(s): 19120, 19125, 19126, 19180*, 19182*, 19200*, 19220*, 19240*, 19303-19307, 19340, 59000, 59001, 59012, 59015, 59020, 59025, 59030, 59050, 59051, 59070, 59072, 59074, 59076, 59100, 59120, 59121, 59130, 59135, 59136, 59140, 59145, 59151, 59156, 59200, 59300, 59320, 59325, 59330, 59400, 59409, 59410, 59412, 59414, 59425, 59426, 59430, 59510, 59514, 59545, 59525, 59610, 59612, 59614, 59618, 59620, 59622, 59812, 59820, 59821, 59830, 59840, 59841, 59850-59852, 59855-59857, 59866, 59870, 59871, 59897-59899, 76801, 76802, 76805, 76810-76812, 76815-76819, 76825-76828, 76941, 76945, 76946, 82106, 82143, 82731, 88235, 88267, 88269, 0500F-0502F
- DRG code(s): 370-391
- MS-DRG code(s): 765-770, 774-782, 789-795

*Code range was retired, but is still appropriate for retrospective analysis

## Numerator

### Numerator Definition
Members who received radiation therapy during the 0-12 months after the index date.

### Numerator Claims Criteria

*Code range was retired, but is still appropriate for retrospective analysis

## Physician Attribution

### Physician Attribution Description
Score all physicians (in the selected specialties) who saw the member 0-12 months after the index date.
References

1 Indicator Classification (Adapted from HEDIS® technical specifications)

**Diagnosis**
 Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).

**Effectiveness of Care**

**Prevention**
 Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).

**Screening**
 Measures applicable to asymptomatic patients who have risk factors or preclinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).

**Disease Management**
 Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).

**Medication Monitoring**
 Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).

**Medication Adherence**
 Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).

**Utilization**
 Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).
**Strength of Recommendation Based on a Body of Evidence**

- **Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?**
  - Yes
  - No → **Strength of Recommendation not needed**

- **Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost?)**
  - Yes
  - No → **Strength of Recommendation = C**

- **Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case-series study?**
  - Yes
  - No

- **Is the recommendation based on one of the following?**
  - Cochrane Review with a clear recommendation
  - USPSTF Grade A recommendation
  - *Clinical Evidence* rating of Beneficial
  - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
  - Validated clinical decision rule in a relevant population
  - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

  - No → **Strength of Recommendation = B**
  - Yes → **Strength of Recommendation = A**

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**FIGURE 2.** Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)