

Burden of Early-Stage Triple-Negative Breast Cancer in a US Managed Care Plan

Onur Başer, MS, PhD^{a,b}, Wenhui Wei, MS, PhD^c, Henry J. Henk, MS, PhD^d,
April Teitelbaum, MD^d, Lin Xie, MS^b

^aTHE UNIVERSITY OF MICHIGAN, ANN ARBOR, MICH; ^bSTATINMED RESEARCH, ANN ARBOR, MICH; ^cSANOI-AVENTIS U.S., BRIDGEWATER, NJ; AND ^dOPTUMINSIGHT, EDEN PRAIRIE, MINN

ABSTRACT

OBJECTIVE: Triple-negative breast cancer (TNBC) is a high-grade breast cancer with an aggressive clinical course. We examined the recurrence rate, health care utilization, and cost of early-stage TNBC in the US managed care setting.

STUDY DESIGN: A retrospective study using linked cancer registry, health care claims, and social administration databases.

METHODS: This retrospective study used the Impact Intelligence Oncology Management cancer registry, linked to 1999-2009 administrative claims, from a national managed care health plan and also Social Security Administration mortality data. Patients with stage I-III TNBC and non-TNBC were followed from diagnosis to recurrence, disenrollment, or end of observation period. Risk-adjusted recurrence rate, health care utilization, and costs during the follow-up period were compared.

RESULTS: A total of 1967 women (403 with TNBC) were included; 289 (14.7%) had local/distant recurrence during the follow-up period. Patients with TNBC were younger (53.68 vs. 56.16 years, $P < .0001$) and more likely to experience recurrence compared with non-TNBC (21.6% vs. 12.9%, $P < .0001$; adjusted hazard ratio = 2.11, $P < .0001$). In terms of adjusted annual health care utilization and costs, patients with TNBC had significantly higher numbers of hospitalizations (1.20 vs. 0.90, $P = .001$); hospitalization days (8.80 vs. 4.97, $P < .0001$); and emergency department (ED) visits (1.45 vs. 0.95, $P = .009$). They also had significantly higher inpatient costs (all-cause: \$9154 vs. \$5501; cancer-related: \$5632 vs. \$2869; $P < .0001$ for both); and ED costs (all-cause: \$303 vs. \$182, $P = .003$; cancer-related: \$240 vs. \$138, $P = .012$).

CONCLUSIONS: This study demonstrates that, compared with non-TNBC, early-stage TNBC is associated with higher rate of recurrence, resulting in increased health care utilization and costs.

KEYWORDS: Burden-of-illness; Cost; Health care analytics; Medicare; Retrospective analysis; Recurrence; TNBC

Apart from cancers of the lung, breast malignancies represent the most common cause of cancer mortality in American women. In 2011, the number of US invasive breast cancer diagnoses and deaths in females were estimated at 230,500 and 39,500, respectively.¹

The American Cancer Society also reports that breast cancer mortality has steadily declined since 1990 by 3.2% annually in women under 50 years, and 2.0% annually in women over that age.¹ While early detection has been a prime mover in the reduction in breast cancer mortality,² advances in therapy also accompanied the improvements in diagnosis. Postsurgical use of adjuvant chemotherapy and hormonal therapies reduced the death rate by at least as much as breast cancer screening, with the combined effect of the two causing a 25% to 38% reduction.³

Although sensitive to conventional chemotherapy, triple-negative breast cancer (TNBC) is the one type of breast cancer that has not benefited from the past 2 decades' advances in targeted treatments, as other breast cancers have.⁴ TNBC cells lack hormonal (estrogen and progesterone) receptors and do not overexpress human epidermal growth factor receptor 2 (HER2). These are the usual targets of pre- and postoperative systemic therapy used to treat hormone receptor-positive and HER2-positive breast cancers, respectively.^{5,6}

TNBC makes up 10%-17% of all breast cancers in American women, and is especially prevalent in African Americans, Hispanics, and women under 50.^{4,7} It follows an aggressive clinical course, with an elevated risk of recurrence or death during the initial 5 years after diagnosis.^{4,5,7} According to data from the California Cancer Registry, the 5-year survival rate for women with TNBC was 77%, compared with 93% for women with other breast cancer types.⁷

Previous studies have reported that breast cancer recurrence and advanced disease result in elevated costs and decreased survival compared with early primary disease.⁸⁻¹⁰ There remains a scarcity of information about the specific economic cost and recurrence rate of early-stage TNBC. This paucity of information arises because it is relatively straightforward to calculate overall breast cancer costs from the diagnostic and procedure codes on claims sent to third-party payers.^{8,10,11} However, separating out the patients with TNBC is difficult.

The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnostic code for primary breast cancer is 174.xx, and the related procedure codes are similarly clear cut (Table 1). Multiple claims with breast cancer-related codes can act as confirmation, although the accuracy of indirect claims-based ascertainment methods is still not complete.¹¹ Missing or incorrect information,

TABLE 1: Codes for Identifying Breast Cancer Interventions⁸

Treatment Type	ICD-9-CM Diagnosis	ICD-9-CM Procedure	HCPCS/CPT	DRG
Mastectomy		85.41-85.48 85.21-85.22	19,160-19,240	257-260
Chemotherapy	V58.1	99.25	Q0083-Q0085 Q0164-Q0168 J8510-J8999 J9000-J9999 96400-96450 96452-96545	410
Radiotherapy	V58.0	92.21-92.29	77,401-77,417	409

ICD-9-CM = International Classification of Diseases, 9th Revision, Clinical Modification Codes; HCPCS/CPT = Healthcare Common Procedure Coding System/Current Procedural Terminology; DRG = Diagnosis-related Groups.

Adapted from *Value in Health*, Vol. 11, Stokes et al., Ten-year survival and costs following breast cancer recurrence: Estimates from SEER-Medicare data, Pages No. 213-220, Copyright 2008; with permission from the International Society for Pharmacoeconomics and Outcomes Research (ISPOR).⁸

Download English Version:

<https://daneshyari.com/en/article/1074828>

Download Persian Version:

<https://daneshyari.com/article/1074828>

[Daneshyari.com](https://daneshyari.com)