

Survival of Female Breast, Cervical and Colorectal Cancers in Missouri, 1996-2015



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Background

- ❖ In the state of Missouri (MO) as in the U.S., colorectal cancer (CRC) and female breast cancer (BC) are two of the leading causes of cancer-related deaths. MO's cervical cancer (CC) mortality rates are in the top quartile of rates in the U.S, despite an overall downward trend in mortality.
- ❖ In 1992, MO began providing free BC and CC screenings to women meeting certain age, income and insurance guidelines, as part of the National Breast and Cervical Cancer Early Detection Program (a.k.a. "Show Me Healthy Women" in MO).
- ❖ Beginning in 1999, MO became one of the first states to pass laws requiring insurers to cover CRC screening exams.
- ❖ Population-based survival provides an indicator of the effectiveness of screening, early diagnosis and treatment.
- ❖ Survivals for female breast cancer (BC), cervical cancer (CC) and colorectal cancer (CRC) have not been well described in MO.

Purpose

- ❖ To evaluate relative survivals of BC, CC and CRC in MO.

Methods

- ❖ 1996-2015 survival data were obtained from the Missouri Cancer Registry and Research Center.
- ❖ Trends of 5-yr relative survival of BC, CC and CRC by stage of diagnosis (Localized:L, Regional+Distant:R+D, NA+Unknown:NA+U) were described.
- ❖ 5-yr relative survival (RS) rates by year of diagnosis, stage, age, sex, race, geographical region and metro vs. non-metro status were presented.

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Results

Table 1. 5-Year Relative Survival Rates of Invasive Female Breast, Colorectal and Cervical Cancers in MO, 1996-2015.

Cancer Sites	5-Year RS Rates	95% CI	No. Cases
Breast Cancer	87.0	86.6-87.4	58,546
Colorectal Cancer	73.3	72.7-73.9	44,812
Cervical Cancer	67.2	65.5-68.8	4,090

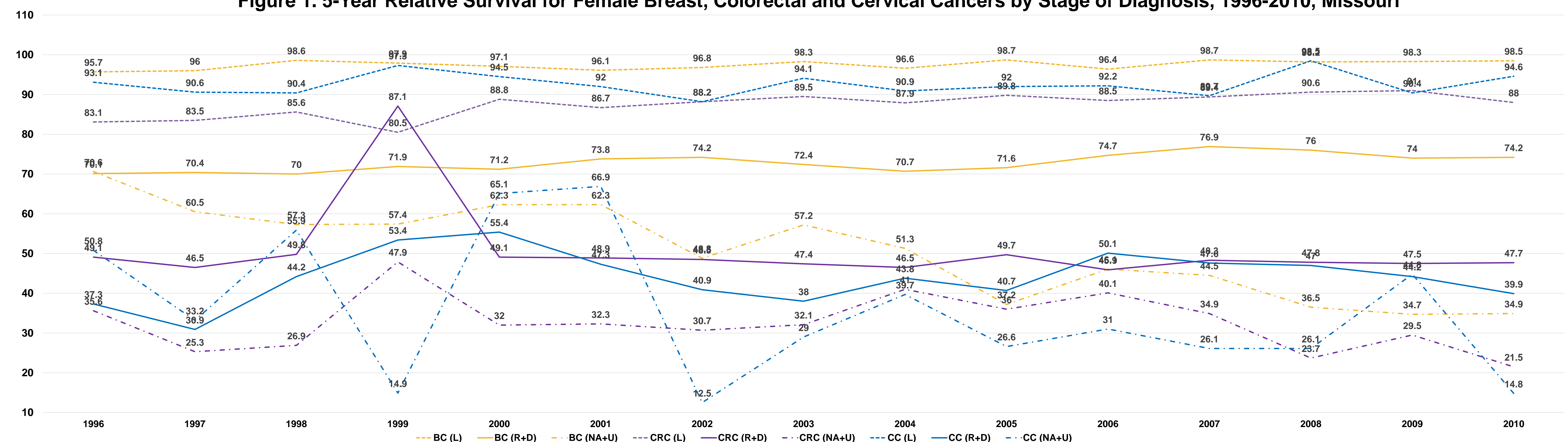
Conclusions/Discussion

- ❖ From 1996-2015, BC RS was 87%, slightly lower than the SEER-13 rate of 90% (1996-2013). CC RS was 66%, lower than the SEER rate of 70%. CRC RS was 62%, also lower than the SEER rate (65%). CC RS rates were consistent over the years; there was a small increase in BC and CRC RS over 1996-2015, which may be due to advances in treatments and the screening programs implemented.
- ❖ Prognostic and demographic variations exist in BC, CC and CRC survivals, e.g. CC impacts younger (< 50) & black women disproportionately.
- ❖ Trends and patterns presented will help inform patients, healthcare providers and policy makers about survival for three major cancers in MO.

Table 2. 5-Year Relative Survival Rates for Invasive Female Breast, Colorectal and Cervical Cancers by Prognostic and Demographic Characteristics in Missouri, 1996-2015.

	Breast Cancer % (95% CI)	No. Cases	Colorectal Cancer % (95% CI)	No. Cases	Cervical Cancer % (95% CI)	No. Cases
Stage of Diagnosis						
Localized Stage	97.5 (97.0-97.9)	35,246	95.8 (94.8-96.6)	16,239	92.9 (91.2-94.2)	1,925
Late Stage (R+D)	72.9 (72.2-73.7)	21,428	62.4 (61.5-63.1)	25,604	44.4 (41.8-46.7)	2,022
NA or unknown	53.4 (50.5-56.3)	1,872	46.0 (43.6-48.3)	2,969	35.8 (27.1-44.7)	143
Age Group						
<40	83.2 (81.7-84.6)	2,993	71.0 (67.9-73.9)	1,063	82.0 (79.4-84.3)	1,133
40-49	87.8 (87.0-88.5)	9,670	71.4 (69.6-73.1)	3,081	73.2 (70.2-75.9)	1,073
50-59	87.5 (86.8-88.2)	13,441	73.4 (72.1-74.6)	7,008	62.5 (58.4-66.2)	753
60-74	88.0 (87.4-88.7)	19,511	72.7 (71.8-73.6)	16,397	53.1 (48.9-57.2)	738
75+	85.5 (84.0-86.8)	12,931	73.8 (72.8-74.8)	17,263	40.9 (33.9-47.7)	393
Sex						
Female	87.0 (86.6-87.4)	58,546	74.0 (73.2-74.9)	22,186	67.2 (65.5-68.8)	4,090
Male	NA	NA	72.6 (71.8-73.5)	22,626	NA	NA
Race						
White	87.9 (87.5-88.4)	52,324	73.9 (73.2-74.5)	39,955	68.2 (66.4-70.0)	3,393
Black	78.2 (76.6-79.6)	5,521	67.3 (65.4-69.2)	4,386	59.7 (51.1-63.9)	1,073
Other	89.9 (85.3-93.1)	413	76.2 (69.5-81.7)	296	76.8 (63.3-85.9)	65
BRFSS Region						
Kansas City Metro	86.4 (85.4-87.3)	11,316	73.6 (72.1-75.0)	7,935	68.1 (64.3-71.7)	793
Jackson County	85.6 (84.3-86.7)	6,688	73.2 (71.2-75.0)	4,750	66.7 (61.8-71.2)	495
St. Louis Metro	87.8 (87.1-88.4)	22,159	73.8 (72.8-74.8)	15,757	65.6 (62.7-68.3)	1,411
St. Louis City	82.3 (80.3-84.1)	3,304	70.8 (68.2-73.2)	2,776	58.7 (52.8-64.1)	371
St. Louis County	89.1 (88.2-90.0)	12,600	75.1 (73.7-76.4)	8,574	63.7 (59.3-67.8)	648
Central	87.0 (85.7-88.2)	6,247	73.0 (71.1-74.8)	4,880	68.0 (62.6-72.7)	402
Southwestern	87.8 (86.6-88.8)	8,374	73.8 (72.2-75.3)	6,539	67.9 (63.6-71.9)	603
Southeastern	83.7 (82.3-85.1)	5,622	70.3 (68.5-72.1)	5,063	66.9 (62.0-71.2)	511
Northwestern	90.0 (87.7-92.0)	2,190	74.3 (71.4-77.0)	2,053	67.4 (58.7-74.7)	176
Northeastern	86.2 (84.0-88.1)	2,634	73.6 (70.9-76.0)	2,582	71.1 (63.3-77.6)	194
Metro vs. Non-metro						
Metro	87.5 (87.0-88.0)	42,841	73.5 (72.8-74.3)	30,545	66.2 (64.1-68.1)	2,812
Non-Metro	85.7 (84.9-86.5)	15,701	72.9 (71.8-73.9)	14,264	69.3 (66.4-72.1)	1,278

Figure 1. 5-Year Relative Survival for Female Breast, Colorectal and Cervical Cancers by Stage of Diagnosis, 1996-2010, Missouri



For more information about this project, contact: Yilin Yoshida, PhD, Postdoctoral Fellow, MCR-ARC, Health Management & Informatics yoshiday@health.Missouri.edu. The authors would like to thank MCR-ARC Quality Assurance staff and the staff of facilities throughout MO and other states' central cancer registries for their dedication in continuous quality improvement and submitting their reportable cases to MCR-ARC; and the MO-DHSS.