

CHAPTER 13: CANCER SURVIVORSHIP



Cancer survivors are at greater risk for recurrence and developing second cancers due to effects of treatment, lifestyle behaviors, genetics or risk factors that contributed to the first cancer. Cancer survivors can help enhance their quality of life, maintain their health and improve survival.

About 1 in 10 adult cancer survivors in Kansas were diagnosed before age 35. Survivors of childhood cancer have special health care needs and require follow-up care and medical surveillance for the rest of their lives.⁵⁴ This specialized care is

necessary to monitor late effects that may develop months or years after treatment has ended.⁵⁵ The risk of late effects depends on the type of cancer, the type and dosage of treatment received, and the child's age.⁵⁶ Late effects of childhood cancer may include recurrence, second cancers, premature death, disability, impaired development, and learning problems.

While prevention is key to the public health response to cancer among adults, little is known about how to develop evidence-based interventions to prevent cancer among children. Further, there are no nationally-recognized cancer screening guidelines to detect childhood cancers in their early stage.

Health risk behaviors, health status, and health care access among cancer survivors

In 2019, 7.6 percent of Kansas adults 18 years and older reported they currently have cancer (excluding skin cancer) (data not shown).

In 2019, the percentage of Kansans who are current smokers did not differ significantly by cancer status. On the other hand, the percentage of Kansans who reported having ever drunk alcohol in the past 30 days was significantly lower among adults with cancer compared to adults without cancer ($p < 0.001$, Table 13-1).

The percentage of Kansans who consume fruits one or more times per day was significantly higher among adults with cancer compared to adults without cancer ($p = 0.02$) in 2019. Conversely, the percentage of Kansans who consume vegetables one or more times per day did not differ significantly by cancer status.

The percentage of Kansans who reported they did not participate in any physical activities in the past 30 days in 2019 was significantly lower among adults with cancer compared to adults without cancer ($p < 0.001$). However, the percentage of Kansans who are overweight/obese did not differ significantly by cancer status.

⁵⁴ American Cancer Society. Cancer in Children. Available at: <http://www.cancer.org/acs/groups/cid/documents/webcontent/002287-pdf>. Accessed August 19, 2020.

⁵⁵ National Cancer Institute. Cancer in Children and Adolescents. Available at: <http://www.cancer.gov/types/childhood-cancers/child-adolescent-cancers-fact-sheet#r2>. Accessed August 19, 2020

⁵⁶ Centers for Disease Control and Prevention. Basic Information for Cancer Survivors. Available at: http://www.cdc.gov/cancer/survivorship/basic_info/index.htm. Accessed September 1, 2016.

After adjustment for gender, age, race, ethnicity, employment and education, the prevalence of the previous health risk factors did not significantly differ between adults with a cancer and those without a cancer.

In 2019, the percentages of Kansans who self-reported fair/poor health, living with disability, physically unhealthy for 14 days or more in the past month, and poor health interfered with usual activities for 14 days or more in the past month were significantly higher among adults with cancer as compared to those without cancer. The percentage of Kansans who were physically unhealthy for 14 days or more in the past month did not differ significantly by cancer status. After adjustment for gender, age, race, ethnicity, employment and education, the prevalence of these health statuses also remained significantly higher among adults with a cancer compared to those without a cancer.

In 2019, the percentages of Kansans who did not have insurance and of those who reported not having a health care provider were significantly higher among adults without cancer as compared to those with cancer ($p < 0.001$). The percentage of Kansans who could not see doctor because of cost did not differ significantly by cancer status. After adjustment for gender, age, race, ethnicity, employment and education, the percentages of Kansans who did not have insurance and of those who reported not having a health care provider did not differ significantly between those without cancer as compared to those with cancer.

Table 13-1. Adjusted prevalence of health risk behaviors, health status, and health care access indicators among adults 18 years and older, by history of cancer diagnosis, Kansas, 2019

Cancer status	Unadjusted Prevalence			Adjusted Prevalence*		
	Cancer	No cancer	P-value	Cancer	No cancer	P-value
Health Risk Behaviors	% ± SE	% ± SE		% ± SE	% ± SE	
Current smoker	15.9 ± 1.5	16.2 ± 0.5	0.9	20.1 ± 2.7	19.5 ± 1.8	0.7
Drank alcohol in past 30 days	45.3 ± 2.0	56.2 ± 0.6	< 0.001	39.3 ± 3.1	40.0 ± 2.4	0.8
Consume fruits ≥ 1 times per day	62.7 ± 2.0	58.3 ± 0.7	0.04	60.5 ± 3.0	58.7 ± 2.3	0.4
Consume vegetables ≥ 1 times per day	81.9 ± 1.6	80.2 ± 0.6	0.3	74.3 ± 3.0	73.7 ± 2.3	0.8
Physical activity in past 30 days	65.8 ± 1.8	73.7 ± 0.6	< 0.001	67.4 ± 3.0	70.4 ± 2.2	0.1
Overweight/obese (BMI ≥ 25kg/m ²)	72.5 ± 1.7	69.8 ± 0.6	0.2	70.9 ± 2.8	69.7 ± 2.3	0.6
Health Status						
Self-reported fair/poor health	66.8 ± 1.9	84.1 ± 0.5	< 0.001	51.6 ± 3.9	68.7 ± 2.6	< 0.001
Living with disability	44.3 ± 1.9	26.1 ± 0.6	< 0.001	53.0 ± 3.5	44.8 ± 2.8	< 0.001
Physically unhealthy for ≥ 14 days in past 30 days	23.8 ± 1.7	10.6 ± 0.4	< 0.001	27.9 ± 3.6	17.3 ± 2.1	< 0.001
Emotionally unhealthy for ≥ 14 days in past 30 days	15.1 ± 1.4	13.7 ± 0.5	0.4	23.3 ± 3.1	19.0 ± 2.0	0.05
Poor health interfered with usual activities for ≥ 14 days in past 30 days	16.4 ± 1.5	8.2 ± 0.4	< 0.001	22.4 ± 3.5	15.1 ± 2.1	< 0.001
Health Care Access						
Uninsured	6.9 ± 1.0	12.6 ± 0.5	< 0.001	17.1 ± 2.9	18.0 ± 0.2	0.7
Do not have health care provider	9.7 ± 1.3	22.2 ± 0.6	< 0.001	24.4 ± 3.3	30.3 ± 2.2	0.06
Could not see doctor because of cost	11.7 ± 1.3	13.2 ± 0.5	0.3	23.9 ± 3.2	21.2 ± 1.9	0.3

* Predicted population margins; adjusted for age, sex, race/ethnicity, employment status, and education level. SE= standard error. P-values < 0.05 indicate statistically significant between-group differences.

Source: 2019 Kansas Behavioral Risk Factor Surveillance System, Bureau of Health Promotion, Kansas Department of Health and Environment

Receiving treatment summary and care plan, financial hardship, participating in clinical trial, and pain management among cancer survivors

Starting from 2016, Cancer Program included the cancer survivorship module in the Kansas BRFSS questionnaire. The module questions collected information whether the cancer survivors received treatment summaries and survivorship care plans, faced financial hardship due to cancer, participated in clinical trials, and if they had their pain managed. In addition to the survivorship module, the cancer program added another set of questions in 2018 to collect more detailed information about the financial hardship among cancer survivors, i.e., inability to get cancer screening test; inability to get a cancer diagnostic test if they were recommended to do; or if they went in a financial hardship such as borrowing money or going into debt because of their cancer, its treatment, or the late effects of treatment. These questions were asked to any respondent with cancer, including skin cancer. The weighted percentages of cancer survivors in Kansas were 16.8%, 16.3%, and 18.1%, in 2016, 2017, and 2018, respectively (Data not shown).

During 2016-2018, less than half of cancer survivors received a summary of their treatment from their health care providers. The percentage of cancer survivors who received a summary of their treatment ranged from 41.3% (2017) to 48.7% (2016), without significant differences between the three years (Table 13-2).

About three quarters of cancer survivors have received a survivorship care plan during 2016-2018 in Kansas. This care plan referred to instructions from a healthcare professional on where the survivors should return or who they should see for routine cancer check-ups after completing their treatment. The percentage of cancer survivors who received a survivorship care plan ranged from 70.0% (2017) to 77.1% (2016), without significance differences between the three years. The great majority of those who received a survivor care plan (77.0%-79.6%) received it written down or printed on paper format during 2016-2018, also without significant differences between the three years.

As for the financial burden from cancer, insurance paid for all or part of cancer treatment for most of Kansas cancer survivors (94.9%-97.1%) with their most recent diagnosis of cancer, whereas a small percentage of Kansas cancer survivors were denied insurance because of cancer (6.7%-8.3%) during 2016-2018. There were no significant differences between the three years regarding these two components of hardship.

In 2018, only 2.5 percent of cancer survivors in Kansas were unable to obtain cancer screening due to cost, while about 11% were unable to obtain recommended cancer screening testing due to cost, and about 9 percent of cancer survivors experienced financial hardship due to cancer, treatment or late effects of treatment.

The percentage of cancer survivors who participated in a clinical trial during their course of treatment ranged from 3.1% (2018) to 5.0% (2016), there were also no significant differences between the three years.

During 2016-2018, the percentages of cancer survivors who experienced pain caused by cancer or cancer treatment ranged from 8.1% (2016) to 10.0% (2018). The majority of those with pain got their pain under control (72.3%-78.6%) with or without medication. These percentages did not differ significantly between the three years.

Table 13-2. Percentages of receiving treatment summary and care plan, financial hardship, participating in clinical trial, and pain management among cancer survivors, Kansas, 2016-2018

	Percentage		
	2016 % (95% CI)	2017 % (95% CI)	2018 % (95% CI)
Receiving treatment summary and care plan			
Ever given a written summary of cancer treatment	48.7 (43.7-53.6)	41.3 (37.5-45.2)	45.5 (40.5-50.6)
Ever received a survivorship care plan ^a	77.1 (73.1-81.0)	70.0 (66.3-73.4)	74.4 (69.9-78.8)
The survivorship care plan is written ^a	79.6 (75.3-83.9)	77.9 (74.1-81.7)	77.0 (71.8-82.2)
Financial hardship due to cancer			
Insurance paid for all or part of cancer treatment	96.7 (94.9-98.4)	94.9 (93.2-96.6)	97.1 (95.5-98.7)
Denied insurance because of cancer	6.7 (4.5-8.9)	7.6 (5.4-9.8)	8.3 (5.4-11.2)
Unable to obtain cancer screening due to cost ^b			2.5 (2.0-3.1)
Unable to obtain recommended cancer diagnostic testing due to cost ^b			10.6 (7.1-14.1)
Financial hardship due to cancer, treatment or late effects of treatment ^b			8.6 (6.2-10.9)
Participation in a clinical trial			
Participated in a clinical trial	5.0 (3.1-6.9)	6.3 (4.3-8.3)	3.1 (1.6-4.6)
Pain management			
Has pain caused by cancer or cancer treatment	8.1 (5.5-10.6)	9.8 (7.3-12.3)	10.0 (6.7-13.4)
Pain is under control	78.6 (64.9-92.3)	72.3 (59.1-85.5)	73.6 (58.3-88.8)

^a The survivorship care plan referred to instructions from a healthcare professional on where the survivors should return or who should see him/her for routine cancer check-ups after completing his/her treatment

^b Data are not available in 2016 and 2017 BRFSS.

Source: 2016-2018 Kansas Behavioral Risk Factor Surveillance System, Bureau of Health Promotion, Kansas Department of Health and Environment. See Technical Appendix for details on how prevalence estimates were calculated.