

SUPPLEMENTARY METHODS

Difference-in-Differences Analyses

We compared changes in 2-year overall survival from 2011-2013 to 2015-2018 between Medicaid expansion and non-expansion states. The 2-year endpoint was selected to be similar to the median follow-up time (21 months for individuals diagnosed in 2015-2018). Changes were evaluated using linear regression models, where the outcome variable, 2-year overall survival, was estimated using the pseudo-observation method. This method estimates each individual observation's contribution to the total 2-year overall survival as measured in a Kaplan-Meier curve. This is done by estimating the 2-year overall survival for the overall sample and for the sample excluding an observation j ; the pseudo-observation is equal to the weighted difference between those two values: $(N)*2\text{-yr-OS}_{\text{full sample}} - (N-1)*2\text{-yr-OS}_{\text{sample excluding } j}$.¹ Estimation was done using the jackknife function from the R `prodlim` package. Since censoring is related to the year of diagnosis, which defines the pre- and post-expansion periods, we utilized a mixture estimator, where the pseudo-observations were calculated for the observations from the pre- and post-expansion periods separately.¹ Note that because of requirement of a mixture estimator, our endpoint was limited by the 2015-2018 period, precluding analysis of other endpoints (e.g. 5-year overall survival). The linear regression model was constructed in the following manner:

$$2\text{-yr-OS} = \text{state} + \text{year} + (\text{expansion_state} * \text{post_period}) + \text{covariates}.$$

Where state refers to a set of dummy binary indicator variables for each state, year is a set of dummy binary indicator variables for each year, expansion_state is a binary variable indicating whether or not a given individual resided in a state that expanded Medicaid by 2014, post_period is a binary variable indicating whether a given individual was diagnosed after 2014, and covariates including basic demographic information as well as factors associated with access to care and/or cancer outcomes, including age, race/ethnicity, sex, metropolitan residence, cancer type, and stage at diagnosis. The estimate of interest in difference-in-differences analyses is the interaction term between expansion_state and post_period. We used robust standard errors clustered by state for all analyses.

Testing of the parallel trends assumption

Difference-in-differences analyses require that in the absence of the intervention (in this case, Medicaid expansion) that the trends in the outcome (overall survival in this case) would have been parallel between the two comparison groups. While this cannot be known, the pre-expansion period can give insight into the temporal trends in the two groups. We first visually assessed the temporal trends between the two groups. We then formally tested for year-by-year differential changes between state groups in the pre-expansion period. To do so, we generated linear regression models of the following design:

$$2\text{-yr-OS} = \text{state} + \text{year} + (\text{expansion_state} * \text{year}) + \text{covariates}.$$

In this manner, changes relative to baseline, defined as 2013 since it was the year prior to expansion (i.e. changes from 2011 to 2013, and changes from 2012 to 2013) could be made. If the interaction term suggested differential temporal trends by state, we would conclude that the

temporal trends between the groups were not parallel. Otherwise, we considered the parallel trends assumption satisfied. Note that this approach resembles an event study analysis, except that the sample was limited to the pre-expansion period rather than inclusive of the full sample.

Full results are given in Supplementary Table 2. Briefly, all analyses satisfied the above conditions with the exception of the subgroup analyses for renal tumors, which had a steady decline in OS in non-expansion states on visual inspection, and for 10-14 year-old children, metropolitan residents, residents of counties with the highest quartile of county income, and children with retinoblastoma, which had statistically significant divergences between state groups in our formal testing. These subgroup analyses should be interpreted with caution.

SUPPLEMENTARY RESULTS

Sensitivity analysis including stage at diagnosis as a covariate

After including stage at diagnosis as a covariate in our difference-in-differences analysis, there was a similar effect suggesting increased 2-year OS in Medicaid expansion relative to non-expansion states (1.51 percentage points, 95% CI = 0.42 to 2.60, P=0.010).

Results from other sensitivity analyses are given in Supplementary Table 5.

References

1. Andersen PK, Pohar Perme M. Pseudo-observations in survival analysis. *Stat Methods Med Res.* 2010;19(1):71-99. doi:10.1177/0962280209105020

SUPPLEMENTARY RESULTS

Supplementary Table 1: States included in the study sample

State	No.	Medicaid Expansion Status
Alabama	1013	Non-Expansion
Alaska	0	Excluded ^a
Arizona	1426	Expansion
Arkansas	587	Expansion
California	7989	Expansion ^b
Colorado	723	Expansion
Delaware	206	Expansion
Florida	3830	Non-Expansion
Georgia	2260	Non-Expansion
Idaho	375	Non-Expansion
Illinois	2690	Expansion
Kansas	593	Non-Expansion
Kentucky	1049	Expansion
Louisiana	0	Excluded ^a
Maine	231	Non-Expansion
Maryland	1053	Expansion
Minnesota	0	Excluded ^c
Mississippi	580	Non-Expansion
Missouri	1245	Non-Expansion
Montana	0	Excluded ^a
Nebraska	474	Non-Expansion
Nevada	531	Expansion
New Hampshire	233	Expansion
New Jersey	1902	Expansion ^b
New York	2035	Expansion
North Carolina	2033	Non-Expansion
North Dakota	128	Expansion
Ohio	2312	Expansion
Oklahoma	797	Non-Expansion
Oregon	814	Expansion
Pennsylvania	0	Excluded ^a
Rhode Island	203	Expansion
South Carolina	892	Non-Expansion
South Dakota	173	Non-Expansion
Tennessee	1352	Non-Expansion
Vermont	108	Expansion
Washington	1533	Expansion ^b
West Virginia	326	Expansion
Wisconsin	1175	Non-Expansion
Wyoming	99	Non-Expansion

^aState expanded Medicaid later in the study period (2015-2017) and were excluded from the main analyses. These states were included in a sensitivity analysis, however, with a modified post-expansion period based on the year of expansion.

^bState enacted a relatively limited Medicaid eligibility expansion during 2010 to 2011. These states were not treated differently in our main analyses, but we conducted a sensitivity analysis including additional pre-expansion data (encompassing 2009-2018) and adjusting for early Medicaid expansion status.

^cState had unavailable county income information and was excluded from (adjusted) difference-in-differences analyses. Note that Minnesota was among the states adopting early Medicaid expansion measures.

States for which no information was available for the present analysis include Connecticut, Massachusetts, Hawaii, Indiana, Michigan, New Mexico, Texas, Utah, and Virginia.

Supplementary Table 2: Tests of the parallel trends assumption. (CBTRUS: Data provided by CDC's National Program of Cancer Registries, 2011-2018)

Subgroup	2011 (relative to 2013)		2012 (relative to 2013)	
	Estimate ^a (95% CI)	P-value	Estimate ^a (95% CI)	P-value
Overall	0.17 (-1.42, 1.76)	0.833	1.53 (-0.48, 3.55)	0.145
0-4 yrs	-0.21 (-2.91, 2.5)	0.882	0.26 (-2.1, 2.62)	0.833
5-9 yrs	-0.31 (-4.85, 4.23)	0.896	1.23 (-3.08, 5.53)	0.579
10-14 yrs ^b	1.09 (-2.01, 4.18)	0.497	3.78 (0.6, 6.96)	0.026
Female	1.2 (-1.85, 4.26)	0.445	1.37 (-2.59, 5.33)	0.503
Male	-0.82 (-3.13, 1.49)	0.49	1.75 (-0.18, 3.68)	0.084
Non-Hispanic White	0.41 (-1.93, 2.76)	0.732	0.71 (-1.99, 3.4)	0.611
Non-Hispanic Black	-1.98 (-9.26, 5.3)	0.598	0.77 (-6.27, 7.81)	0.832
Non-Hispanic Other ^c	3.44 (-4.76, 11.63)	0.417	4.39 (-3.08, 11.85)	0.257
Hispanic	-0.42 (-4.22, 3.37)	0.828	2.05 (-2.11, 6.2)	0.342
Metro ^b	0.79 (-1.1, 2.69)	0.419	2.79 (1.02, 4.55)	0.004
Nonmetro	-1.55 (-6.16, 3.07)	0.517	-5.39 (-10.57, -0.2)	0.051
County income: \$20,850 – 41,880	1.08 (-9.19, 11.36)	0.838	2.38 (-6.66, 11.41)	0.61
County income: \$41,890 – 48,670	-2.91 (-7.99, 2.16)	0.269	1.08 (-3.59, 5.76)	0.652
County income: \$48,680 – 56,410	1.98 (-1.7, 5.66)	0.3	-0.47 (-4.56, 3.62)	0.824
County income: \$56,420 – 133,160 ^b	0.91 (-1.81, 3.63)	0.517	2.96 (0.64, 5.28)	0.017
I. Leukemias, Myeloproliferative And Myelodysplastic Diseases	0.82 (-1.81, 3.46)	0.544	0.66 (-2.75, 4.08)	0.706
II. Lymphomas and reticuloendothelial neoplasms	1.76 (-0.5, 4.01)	0.136	-0.66 (-4.32, 3)	0.726
III. CNS and Miscellaneous Intracranial and Intraspinial Neoplasms	3.4 (-2.04, 8.84)	0.229	4.87 (0.05, 9.68)	0.056
IV. Neuroblastoma And Other Peripheral Nervous Cell Tumors	-4.36 (-11.75, 3.03)	0.256	-0.42 (-7.33, 6.5)	0.907
V. Retinoblastoma ^b	-7.13 (-12.44, -1.82)	0.013	3.09 (-1.75, 7.93)	0.219
VI. Renal Tumors	-3.32 (-9.36, 2.72)	0.289	-5.1 (-12.79, 2.59)	0.202
VII. Hepatic Tumors	4.36 (-15.92, 24.63)	0.677	-0.72 (-21.99, 20.54)	0.947
VIII. Malignant Bone Tumors	-5.55 (-16.01, 4.92)	0.306	4.57 (-6.35, 15.5)	0.418
IX. Soft Tissue And Other Extraosseous Sarcomas	-2.77 (-11.21, 5.67)	0.525	5.62 (-3.17, 14.41)	0.219
X. Germ Cell Tumors, Trophoblastic Tumors And Neoplasms Of Gonads	0.61 (-9.53, 10.76)	0.907	0.04 (-10.62, 10.71)	0.994
XI. Other Malignant Epithelial Neoplasms And Malignant Melanomas	-2.08 (-11.23, 7.08)	0.659	2.61 (-3.98, 9.2)	0.443
XII. Other And Unspecified Malignant Neoplasms	53.08 (-5.38, 111.54)	0.09	35.93 (-26.01, 97.86)	0.269

^aEstimates represent the adjusted difference in 2-year OS for the given year relative to 2013 for Medicaid expansion vs. non-expansion states.

^bFor these subgroups, there were statistically significant differential changes in 2-year OS between Medicaid expansion and non-expansion states during the pre-expansion period, which violates the parallel trends assumption.

°Non-Hispanic Other includes Asian, American Indian, Alaska Native, Native Hawaiian, and other Pacific Islander.

Supplementary Table 3: Characteristics of the study population by Medicaid expansion status.
(CBTRUS: Data provided by CDC's National Program of Cancer Registries, 2011-2018)

Subgroup	No. (%)	Expansion states		Non-expansion states	
	Total	2011-2013	2015-2018	2011-2013	2015-2018
0-4 yrs	21016 (44.9)	5579 (45.7)	7329 (43.8)	3529 (46.9)	4579 (44.1)
5-9 yrs	11992 (25.6)	3143 (25.8)	4234 (25.3)	1904 (25.3)	2711 (26.1)
10-14 yrs	13842 (29.5)	3483 (28.5)	5186 (31)	2086 (27.7)	3087 (29.7)
Female	21750 (46.4)	5733 (47)	7807 (46.6)	3484 (46.3)	4726 (45.5)
Male	25100 (53.6)	6472 (53)	8942 (53.4)	4035 (53.7)	5651 (54.5)
Non-Hispanic White	26576 (56.7)	6774 (55.5)	9024 (53.9)	4620 (61.4)	6158 (59.3)
Non-Hispanic Black	5784 (12.3)	1130 (9.3)	1419 (8.5)	1402 (18.6)	1833 (17.7)
Non-Hispanic Other	3633 (7.8)	1004 (8.2)	1654 (9.9)	352 (4.7)	623 (6)
Hispanic	10857 (23.2)	3297 (27)	4652 (27.8)	1145 (15.2)	1763 (17)
County income: \$20,850 – 41,880	3322 (7.1)	422 (3.5)	519 (3.1)	1026 (13.6)	1355 (13.1)
County income: \$41,890 – 48,670	7382 (15.8)	1296 (10.6)	1842 (11)	1866 (24.8)	2378 (22.9)
County income: \$48,680 – 56,410	10951 (23.4)	2070 (17)	2875 (17.2)	2450 (32.6)	3556 (34.3)
County income: \$56,420 – 133,160	25195 (53.8)	8417 (69)	11513 (68.7)	2177 (29)	3088 (29.8)
Metropolitan	40170 (85.7)	10879 (89.1)	14938 (89.2)	6003 (79.8)	8350 (80.5)
Nonmetropolitan	6680 (14.3)	1326 (10.9)	1811 (10.8)	1516 (20.2)	2027 (19.5)
I. Leukemias, myeloproliferative diseases, and myelodysplastic diseases	14358 (30.6)	3868 (31.7)	5151 (30.8)	2234 (29.7)	3105 (29.9)
II. Lymphomas and reticuloendothelial neoplasms	6120 (13.1)	1636 (13.4)	2210 (13.2)	925 (12.3)	1349 (13)
III. CNS and miscellaneous intracranial and intraspinal neoplasms	9612 (20.5)	2515 (20.6)	3304 (19.7)	1611 (21.4)	2182 (21)
IV. Neuroblastoma and other peripheral nervous cell tumors	3125 (6.7)	781 (6.4)	1063 (6.3)	560 (7.4)	721 (6.9)
V. Retinoblastoma	1151 (2.5)	319 (2.6)	403 (2.4)	182 (2.4)	247 (2.4)
VI. Renal tumors	2482 (5.3)	609 (5)	863 (5.2)	426 (5.7)	584 (5.6)
VII. Hepatic tumors	882 (1.9)	248 (2)	322 (1.9)	134 (1.8)	178 (1.7)
VIII. Malignant bone tumors	1994 (4.3)	480 (3.9)	751 (4.5)	333 (4.4)	430 (4.1)
IX. Soft tissue and other extraosseous sarcomas	2891 (6.2)	750 (6.1)	1000 (6)	499 (6.6)	642 (6.2)
X. Germ cell tumors, trophoblastic tumors, and neoplasms of gonads	1533 (3.3)	375 (3.1)	589 (3.5)	246 (3.3)	323 (3.1)
XI. Other malignant epithelial neoplasms and malignant melanomas	2510 (5.4)	590 (4.8)	1025 (6.1)	339 (4.5)	556 (5.4)
XII. Other and unspecified malignant neoplasms	192 (0.4)	34 (0.3)	68 (0.4)	30 (0.4)	60 (0.6)

Expansion states: AZ, AR, CA, CO, CT, DE, DC, HI, IL, IA, KY, MA, MD, MI, MN, NV, NH, NJ, NM, NY, ND, OH, OR, RI, VT, WA, and WV.

Non-expansion states: AL, FL, GA, ID, KS, ME, MS, MO, NE, NC, OK, SC, SD, TN, TX, UT, VA, WI, WY.

Supplementary Table 4: Changes in 2-year overall survival (%) associated with Medicaid expansion. (CBTRUS: Data provided by CDC's National Program of Cancer Registries, 2011-2018)

	2-year Overall Survival before and after Medicaid Expansion						Difference-in-Differences			
	Expansion states			Non-expansion states			Unadjusted		Adjusted	
Subgroup	2011-2013	2015-2018	Difference	2011-2013	2015-2018	Difference	Estimate ^a (95% CI)	P-value	Estimate ^a (95% CI)	P-value
Overall	89.86	91.34	1.48 (0.6, 2.35)	89.89	89.94	0.05 (-0.84, 0.94)	1.43 (0.2, 2.66)	0.029	1.50 (0.37, 2.64)	0.014
Age Groups										
0-4 years	89.69	91.1	1.41 (0.12, 2.7)	89.63	89.45	-0.18 (-1.59, 1.23)	1.59 (-0.29, 3.47)	0.11	1.57 (-0.27, 3.42)	0.104
5-9 years	90.11	91.5	1.39 (0.27, 2.51)	91.28	90.46	-0.82 (-1.94, 0.31)	2.21 (0.65, 3.77)	0.009	2.14 (0.77, 3.50)	0.004
10-14 years	89.92	91.56	1.64 (0.33, 2.94)	89.07	90.22	1.15 (-0.22, 2.52)	0.49 (-1.38, 2.35)	0.61	0.70 (-1.17, 2.58) ^b	0.47 ^b
Sex										
Female	89.9	91.04	1.14 (-0.1, 2.37)	90.15	89.59	-0.56 (-1.42, 0.29)	1.70 (0.22, 3.18)	0.031	1.80 (0.38, 3.22)	0.018
Male	89.83	91.61	1.78 (1, 2.56)	89.67	90.24	0.57 (-0.71, 1.86)	1.20 (-0.27, 2.68)	0.12	1.26 (-0.08, 2.59)	0.074
Race/Ethnicity										
Non-Hispanic White	90.67	92.13	1.46 (0.38, 2.55)	90.43	90.83	0.4 (-0.63, 1.43)	1.07 (-0.41, 2.54)	0.17	1.13 (-0.22, 2.48)	0.11
Non-Hispanic Black	86.46	88.61	2.15 (-0.89, 5.2)	86.8	85.72	-1.09 (-3.27, 1.1)	3.24 (-0.45, 6.94)	0.095	3.63 (-0.19, 7.45)	0.071
Non-Hispanic Other	90.84	91.8	0.96 (-0.8, 2.73)	90.34	89.87	-0.47 (-4.69, 3.74)	1.44 (-3.05, 5.92)	0.54	1.65 (-3.15, 6.44)	0.51
Hispanic	89.08	90.48	1.4 (0.22, 2.58)	91.35	91.26	-0.09 (-1.76, 1.58)	1.49 (-0.52, 3.5)	0.16	1.24 (-0.76, 3.24)	0.23
Rural/Urban Continuum Code										
Metropolitan	90.08	91.36	1.28 (0.4, 2.15)	90.1	90.08	-0.03 (-0.89, 0.84)	1.30 (0.09, 2.51)	0.042	1.42 (0.26, 2.57) ^b	0.021 ^b
Nonmetropolitan	88.08	91.22	3.13 (1.06, 5.21)	89.05	89.39	0.34 (-2.05, 2.72)	2.80 (-0.31, 5.90)	0.088	2.45 (-0.44, 5.35)	0.11
Median County Household Income										
County income: \$20,850 – 41,880	85.07	90.45	5.38 (3.75, 7.01)	88.69	88.7	0 (-1.71, 1.72)	5.38 (3.06, 7.70)	<.001	5.12 (2.59, 7.65)	<.001
County income: \$41,890 – 48,670	88.35	90.39	2.04 (-0.05, 4.13)	89.12	89.22	0.1 (-2.06, 2.26)	1.93 (-1.02, 4.89)	0.21	1.81 (-1.30, 4.92)	0.26

County income: \$48,680 – 56,410	90.82	91.58	0.76 (-1.48, 3)	90.37	89.8	-0.56 (-1.78, 0.66)	1.32 (-1.19, 3.83)	0.31	1.39 (-1.02, 3.80)	0.27
County income: \$56,420 – 133,160	90.1	91.48	1.37 (0.54, 2.21)	90.58	91.21	0.62 (-0.45, 1.7)	0.75 (-0.59, 2.09)	0.28	0.79 (-0.49, 2.07) ^b	0.23 ^b
Histopathologic group (Defined by ICCC)										
Leukemias, myeloproliferative diseases, and myelodysplastic diseases	92.58	92.65	0.07 (-0.91, 1.05)	91.45	90.95	-0.5 (-2.88, 1.89)	0.57 (-1.96, 3.10)	0.66	0.76 (-1.96, 3.47)	0.59
Lymphomas and reticuloendothelial neoplasms	96.03	95.51	-0.51 (-1.32, 0.3)	95.89	95.3	-0.59 (-2.01, 0.82)	0.08 (-1.52, 1.68)	0.92	0.05 (-1.55, 1.65)	0.95
CNS and miscellaneous intracranial and intraspinial neoplasms	80.83	85.38	4.54 (2.09, 7)	81.94	84.55	2.61 (0.92, 4.3)	1.93 (-1.01, 4.87)	0.21	1.56 (-1.54, 4.66)	0.33
Neuroblastoma and other peripheral nervous cell tumors	89.88	91.67	1.79 (-0.73, 4.31)	88.21	89.88	1.67 (-1.41, 4.75)	0.12 (-3.80, 4.04)	0.95	0.16 (-3.85, 4.18)	0.94
Retinoblastoma	96.87	97.07	0.2 (-1.71, 2.11)	97.8	97.65	-0.15 (-2.47, 2.17)	0.35 (-2.61, 3.31)	0.82	0.2 (-3.04, 3.44) ^b	0.90 ^b
Renal tumors	93.92	94.37	0.44 (-1.69, 2.58)	96.95	91.97	-4.98 (-6.74, -3.21)	5.42 (2.69, 8.15)	<.001	4.98 (2.26, 7.71) ^b	0.001 ^b
Hepatic tumors	83.87	86.02	2.15 (-2.55, 6.84)	85.07	78.7	-6.38 (-13.1, 0.35)	8.52 (0.47, 16.58)	0.046	7.44 (-1.78, 16.66)	0.12
Malignant bone tumors	86.25	89.09	2.84 (-0.6, 6.27)	88.89	84.41	-4.48 (-9.01, 0.06)	7.31 (1.72, 12.91)	0.015	5.91 (0.09, 11.73)	0.046
Soft tissue and other extraosseous sarcomas	85.6	87.18	1.58 (-0.83, 3.99)	86.57	87.38	0.81 (-2.35, 3.97)	0.77 (-3.14, 4.67)	0.70	0.82 (-3.06, 4.70)	0.68
Germ cell tumors, trophoblastic tumors, and neoplasms of gonads	93.07	94.16	1.1 (-1.43, 3.62)	93.9	93.1	-0.8 (-3.7, 2.09)	1.90 (-1.88, 5.68)	0.33	1.62 (-2.18, 5.41)	0.41
Other malignant epithelial neoplasms and malignant melanomas	94.92	96.05	1.14 (-1.28, 3.56)	95.87	95.88	0.01 (-2.55, 2.57)	1.13 (-2.34, 4.60)	0.53	1.43 (-2.07, 4.92)	0.43
Other and unspecified malignant neoplasms	79.41	85.35	5.94 (-9.05, 20.94)	86.67	91.23	4.56 (-2.87, 11.99)	1.38 (-15.11, 17.87)	0.87	1.76 (-17.19, 20.71)	0.86

^aAn estimate >0 favors Medicaid expansion states.

^bThe pre-expansion trends in 2-year overall survival were divergent for subgroup analyses for 10-14 year-old children, metropolitan residents, residents of counties with the highest quartile of county income, and children with renal tumors and retinoblastoma, raising concerns about the plausibility of the parallel trends assumption in these subgroup analyses. As such, the aforementioned subgroup analyses should be interpreted with caution.

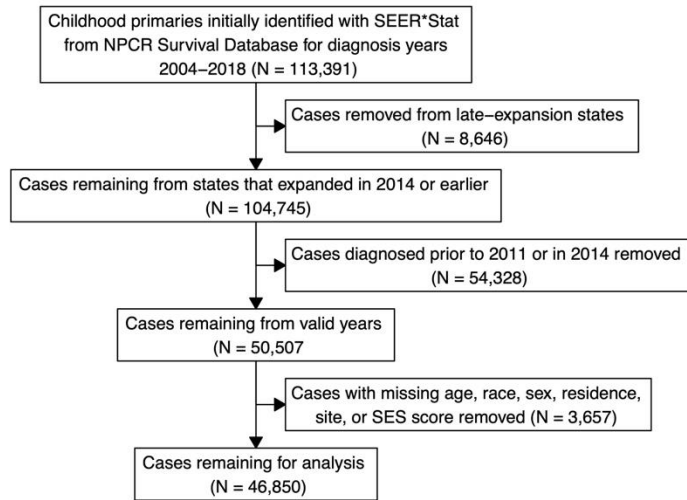
Supplementary Table 5: Sensitivity Analyses of Changes in 2-year overall survival (%) associated with Medicaid expansion. (CBTRUS: Data provided by CDC’s National Program of Cancer Registries, 2009-2018)

Subgroup	Adjust for early Medicaid expansion status (note additional years of data, 2009-2018)		Include states that expanded Medicaid in 2015-2017	
	Estimate ^a (95% CI)	P-value	Estimate ^a (95% CI)	P-value
Overall	1.42 (0.34, 2.51)	0.015	1.48 (0.4, 2.56)	0.011
0-4 yrs	1.61 (-0.13, 3.36)	0.079	1.7 (-0.1, 3.5)	0.073
5-9 yrs	1.96 (0.57, 3.34)	0.009	1.87 (0.52, 3.22)	0.01
10-14 yrs	0.55 (-0.89, 1.98) ^b	0.46 ^b	0.63 (-1.19, 2.44) ^b	0.504 ^b
Female	1.15 (-0.04, 2.35)	0.068	1.77 (0.43, 3.11)	0.014
Male	1.68 (0.4, 2.96)	0.014	1.22 (-0.07, 2.52) ^b	0.072 ^b
Non-Hispanic White	1.25 (-0.03, 2.53)	0.064	1.18 (-0.09, 2.44)	0.078
Non-Hispanic Black	3.34 (-0.12, 6.8)	0.067	2.97 (-0.46, 6.4)	0.098
Non-Hispanic Other	2.72 (-1.9, 7.34)	0.257	2.11 (-2.72, 6.94)	0.397
Hispanic	0.25 (-1.78, 2.27) ^b	0.813 ^b	1.16 (-0.81, 3.13)	0.256
Metro	1.43 (0.34, 2.51) ^b	0.015 ^b	1.36 (0.27, 2.45) ^b	0.02 ^b
Nonmetro	1.76 (-1.02, 4.54)	0.224	2.65 (-0.29, 5.58)	0.086
County income: \$20,850 – 41,880	5.2 (2.22, 8.19)	0.002	3.67 (1.47, 5.87)	0.003
County income: \$41,890 – 48,670	1.2 (-1.15, 3.56)	0.325	1.81 (-1.12, 4.74)	0.235
County income: \$48,680 – 56,410	0.98 (-1.19, 3.15)	0.384	1.87 (-0.56, 4.3)	0.14
County income: \$56,420 – 133,160	1.3 (0.11, 2.49) ^b	0.04 ^b	0.67 (-0.57, 1.91) ^b	0.294 ^b
I. Leukemias, Myeloproliferative And Myelodysplastic Diseases	1.4 (-0.86, 3.67)	0.233	0.77 (-1.92, 3.45)	0.579
II. Lymphomas and reticuloendothelial neoplasms	1.11 (-0.46, 2.68) ^b	0.176 ^b	0.3 (-1.31, 1.91)	0.715
III. CNS and Miscellaneous Intracranial and Intraspinial Neoplasms	0.43 (-2.21, 3.08)	0.749	1.46 (-1.38, 4.3) ^b	0.32 ^b
IV. Neuroblastoma And Other Peripheral Nervous Cell Tumors	0.78 (-3.03, 4.6)	0.689	0.57 (-3.49, 4.63)	0.785
V. Retinoblastoma	-0.48 (-2.86, 1.9) ^b	0.696 ^b	0.44 (-2.67, 3.55) ^b	0.783 ^b
VI. Renal Tumors	4.73 (2.08, 7.38)	0.001	5.01 (2.41, 7.6)	0.001
VII. Hepatic Tumors	1.23 (-8.23, 10.69)	0.801	6.31 (-2.7, 15.32)	0.178
VIII. Malignant Bone Tumors	5.2 (0.34, 10.06)	0.044	6.04 (0.53, 11.55)	0.038
IX. Soft Tissue And Other Extrasosseous Sarcomas	1.25 (-2.58, 5.08)	0.525	0.54 (-3.23, 4.3)	0.781
X. Germ Cell Tumors, Trophoblastic Tumors And Neoplasms Of Gonads	1.45 (-1.85, 4.76)	0.394	1.23 (-2.52, 4.99)	0.525
XI. Other Malignant Epithelial Neoplasms And Malignant Melanomas	1.24 (-1.79, 4.27)	0.427	1.04 (-2.39, 4.46)	0.557
XII. Other And Unspecified Malignant Neoplasms	2.81 (-11, 16.63)	0.693	4.93 (-12.13, 21.98)	0.576

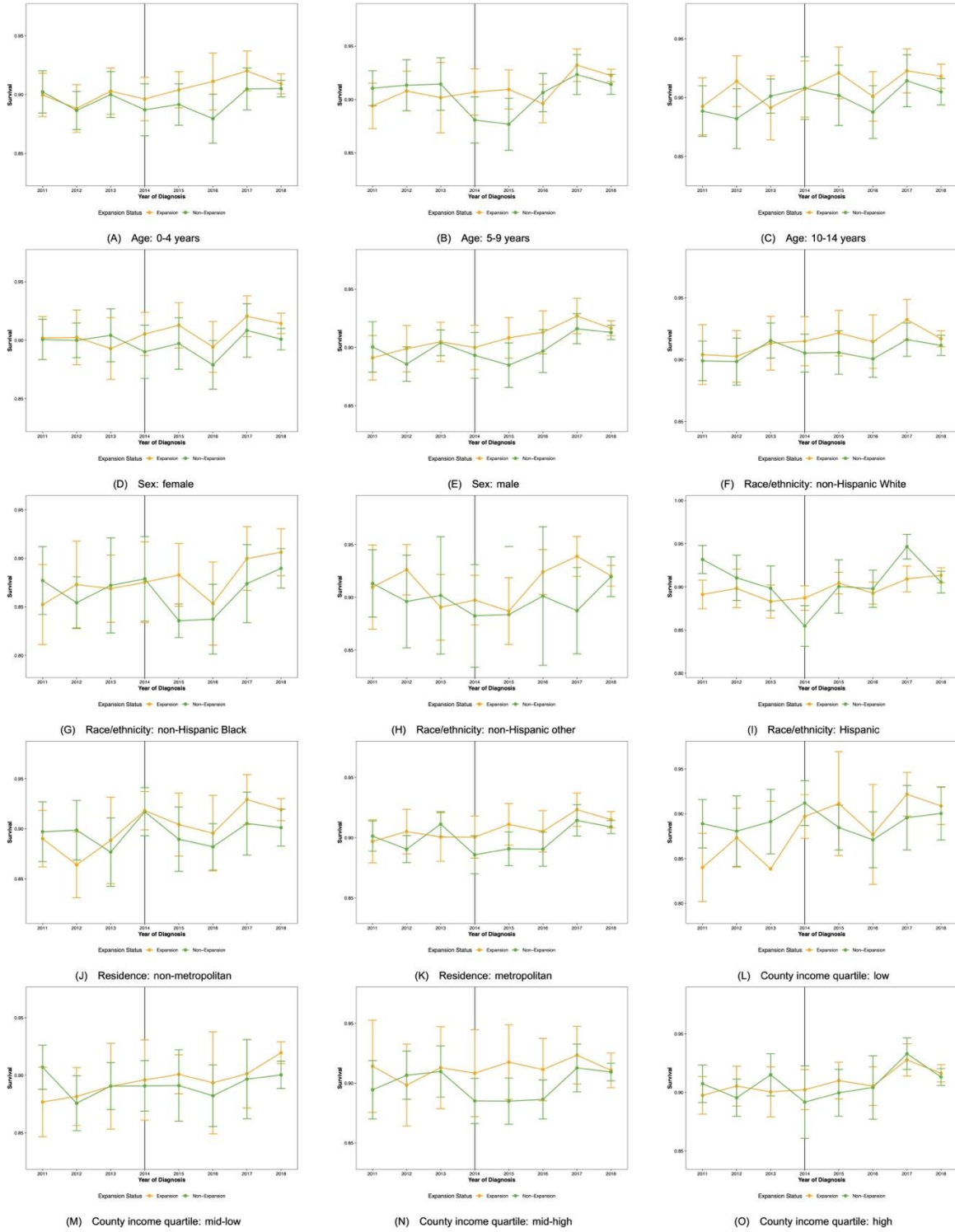
^aAn estimate >0 favors Medicaid expansion states.

^bThe pre-expansion trends in 2-year overall survival were divergent for these subgroups, raising concerns about the plausibility of the parallel trends assumption in these subgroup analyses. As such, these subgroup analyses should be interpreted with caution.

Supplementary Figure 1: Derivation of the final sample. (CBTRUS: Data provided by CDC's National Program of Cancer Registries, 2011-2018)



Supplementary Figure 2: Temporal Trends in 2-year Overall Survival by State Medicaid Expansion Status and Sociodemographic Subgroups. (CBTRUS: Data provided by CDC's National Program of Cancer Registries, 2011-2018)



Supplementary Figure 3: Temporal Trends in 2-year Overall Survival by State Medicaid Expansion Status and Cancer Type Subgroups. (CBTRUS: Data provided by CDC's National Program of Cancer Registries, 2011-2018)

