

Financial Hardship Among Cancer Survivors in the United States



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Cancer Survivorship in the United States

- Cancer survivors can experience lasting adverse effects of disease and its treatment
 - Risk for new cancers and chronic conditions
 - High healthcare spending
 - Limitations in amount or kind of work
 - Income loss
 - Lost access to employer-sponsored health insurance
- Disparities in access to care and health by race/ethnicity, socioeconomic status, geography

Sources: Guy GP Jr, Yabroff KR, Ekwueme DU, Rim SH, Li R, Richardson LC. Economic Burden of Chronic Conditions Among Survivors of Cancer in the United States. *J Clin Oncol*. 2017 Jun 20;35(18):2053-2061.; Zheng Z, Yabroff KR, Guy GP Jr, Han X, Li C, Banegas MP, Ekwueme DU, Jemal A. Annual Medical Expenditure and Productivity Loss Among Colorectal, Female Breast, and Prostate Cancer Survivors in the United States. *J Natl Cancer Inst*. 2015;108(5).; Guy GP Jr, Ekwueme DU, Yabroff KR, Dowling EC, Li C, Rodriguez JL, de Moor JS, Virgo KS. Economic burden of cancer survivorship among adults in the United States. *J Clin Oncol*. 2013 Oct 20;31(30):3749-57. Ramsey SD, Bansal A, Fedorenko CR, Blough DK, Overstreet KA, Shankaran V, Newcomb P. Financial insolvency as a risk factor for early mortality among patients with cancer. *J Clin Oncol* 2016;34(9):980-6.

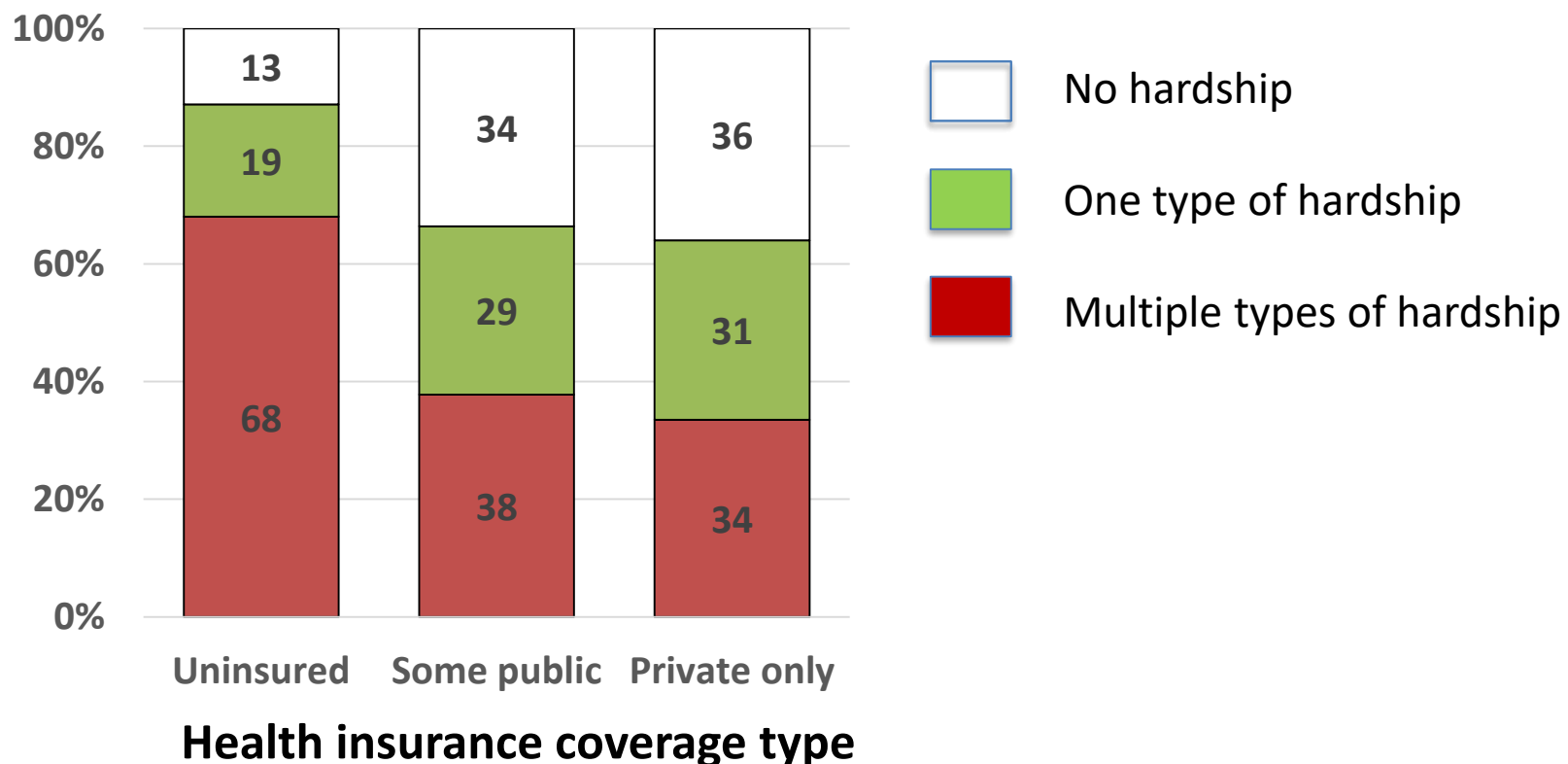
Cancer Survivors Experience Medical and Non-Medical Financial Hardship

Compared to adults without a cancer history, cancer survivors more likely to report:

- High out-of-pocket cost burden
- Filing for bankruptcy protection
- Distress and worry about medical bills
- Delaying or forgoing medical care because of cost
- Worries about daily financial needs (e.g., food, housing)

Sources: Han X, Zhao J, Zheng Z, de Moor JS, Virgo KS, Yabroff KR. Medical Financial Hardship Intensity and Financial Sacrifice Associated with Cancer in the United States. *Cancer Epidemiol Biomarkers Prev.* 2020;29(2):308-317. Zheng Z, Jemal A, Tucker-Seeley R, et al. Worry About Daily Financial Needs and Food Insecurity Among Cancer Survivors in the United States. *J Natl Compr Canc Netw.* 2020;18(3):315-327. Yabroff KR, Zhao J, Zheng Z, Rai A, Han X. Medical Financial Hardship among Cancer Survivors in the United States: What Do We Know? What Do We Need to Know?. *Cancer Epidemiol Biomarkers Prev.* 2018;27(12):1389-1397.

Health Insurance Coverage Associated with Financial Hardship Intensity in Adult Cancer Survivors Aged 18-64 years



Data Source: National Health Interview Survey

Financial Hardship and Adverse Health Outcomes among Cancer Survivors

- Worse health-related quality of life
- Increased mortality risk
 - Bankruptcy associated with increased mortality risk (HR= 1.79 (95% CI:1.64 to 1.96)) in western Washington state
 - Problems with care affordability associated with increased mortality risk among in diverse nationally representative sample

Sources: Lathan CS, Cronin A, Tucker-Seeley R, Zafar SY, Ayanian JZ, Schrag D. Association of Financial Strain With Symptom Burden and Quality of Life for Patients With Lung or Colorectal Cancer. *J Clin Oncol*. 2016 May 20;34(15):1732-40. Zafar SY, McNeil RB, Thomas CM, Lathan CS, Ayanian JZ, Provenzale D. Population-based assessment of cancer survivors' financial burden and quality of life: a prospective cohort study. *J Oncol Pract*. 2015 Mar;11(2):145-50. Ramsey SD, Bansal A, Fedorenko CR, Blough DK, Overstreet KA, Shankaran V, Newcomb P. Financial insolvency as a risk factor for early mortality among patients with cancer. *J Clin Oncol* 2016;34(9):980-6. Yabroff KR, Han X, Song W, Zhao J, Jemal A, Zheng Z. Association of cancer history and medical financial hardship with mortality in the United States. *J Clin Oncol* 2020; 38: 29 Suppl.86.

Association of Cancer History, Financial Hardship and Mortality: Ages 18-64 Years

	Adjusted Model	
	HR	95% CI
Cancer history and financial hardship		
Cancer history and hardship	2.13	1.92-2.37
Cancer history and no hardship	1.93	1.81-2.05
No cancer history and hardship	1.35	1.30-1.40
No cancer history and no hardship	ref	
Health Insurance coverage		
Public only		
Uninsured/missing		
Any private		

Data source: National Health Interview Survey (NHIS) and NHIS Mortality files. Multivariable weighted Cox Proportional Hazards Models included number of conditions, sex, race/ethnicity, marital status, educational attainment, geographic region, and survey year

Source: Yabroff KR, Han X, Song W, Zhao J, Jemal A, Zheng Z. Association of cancer history and medical financial hardship with mortality in the United States. J Clin Oncol 2020; 38: 29 Suppl.86.

Association of Cancer History, Financial Hardship and Mortality: Ages 18-64 Years

	Adjusted Model		Adjusted Model + Health Insurance	
	HR	95% CI	HR	95% CI
Cancer history and financial hardship				
Cancer history and hardship	2.13	1.92-2.37	1.81	1.62-2.02
Cancer history and no hardship	1.93	1.81-2.05	1.91	1.79-2.04
No cancer history and hardship	1.35	1.30-1.40	1.18	1.14-1.23
No cancer history and no hardship	ref			
Health Insurance coverage				
Public only			1.84	1.76-1.92
Uninsured/missing			1.54	1.47-1.61
Any private			ref	

Data source: National Health Interview Survey (NHIS) and NHIS Mortality files. Multivariable weighted Cox Proportional Hazards Models included number of conditions, sex, race/ethnicity, marital status, educational attainment, geographic region, and survey year

Source: Yabroff KR, Han X, Song W, Zhao J, Jemal A, Zheng Z. Association of cancer history and medical financial hardship with mortality in the United States. J Clin Oncol 2020; 38: 29 Suppl.86.

Association of Cancer History, Financial Hardship and Mortality: Ages 65-79 Years

	Adjusted Model	
	HR	95% CI
Cancer history and financial hardship		
Cancer history and hardship	1.62	1.44-1.81
Cancer history and no hardship	1.35	1.28-1.42
No cancer history and hardship	1.17	1.10-1.24
No cancer history and no hardship	ref	
Health Insurance coverage		
Medicare and other public		
Medicare only		
Medicare and private		

Data source: National Health Interview Survey (NHIS) and NHIS Mortality files. Multivariable weighted Cox Proportional Hazards Models included number of conditions, sex, race/ethnicity, marital status, educational attainment, geographic region, and survey year

Source: Yabroff KR, Han X, Song W, Zhao J, Jemal A, Zheng Z. Association of cancer history and medical financial hardship with mortality in the United States. J Clin Oncol 2020; 38: 29 Suppl.86.

Association of Cancer History, Financial Hardship and Mortality: Ages 65-79 Years

	Adjusted Model		Adjusted Model + Health Insurance	
	HR	95% CI	HR	95% CI
Cancer history and financial hardship				
Cancer history and hardship	1.62	1.44-1.81	1.60	1.43-1.80
Cancer history and no hardship	1.35	1.28-1.42	1.35	1.29-1.42
No cancer history and hardship	1.17	1.10-1.24	1.15	1.08-1.22
No cancer history and no hardship	ref			
Health Insurance coverage				
Medicare and other public			1.28	1.21-1.35
Medicare only			1.11	1.06-1.15
Medicare and private			ref	

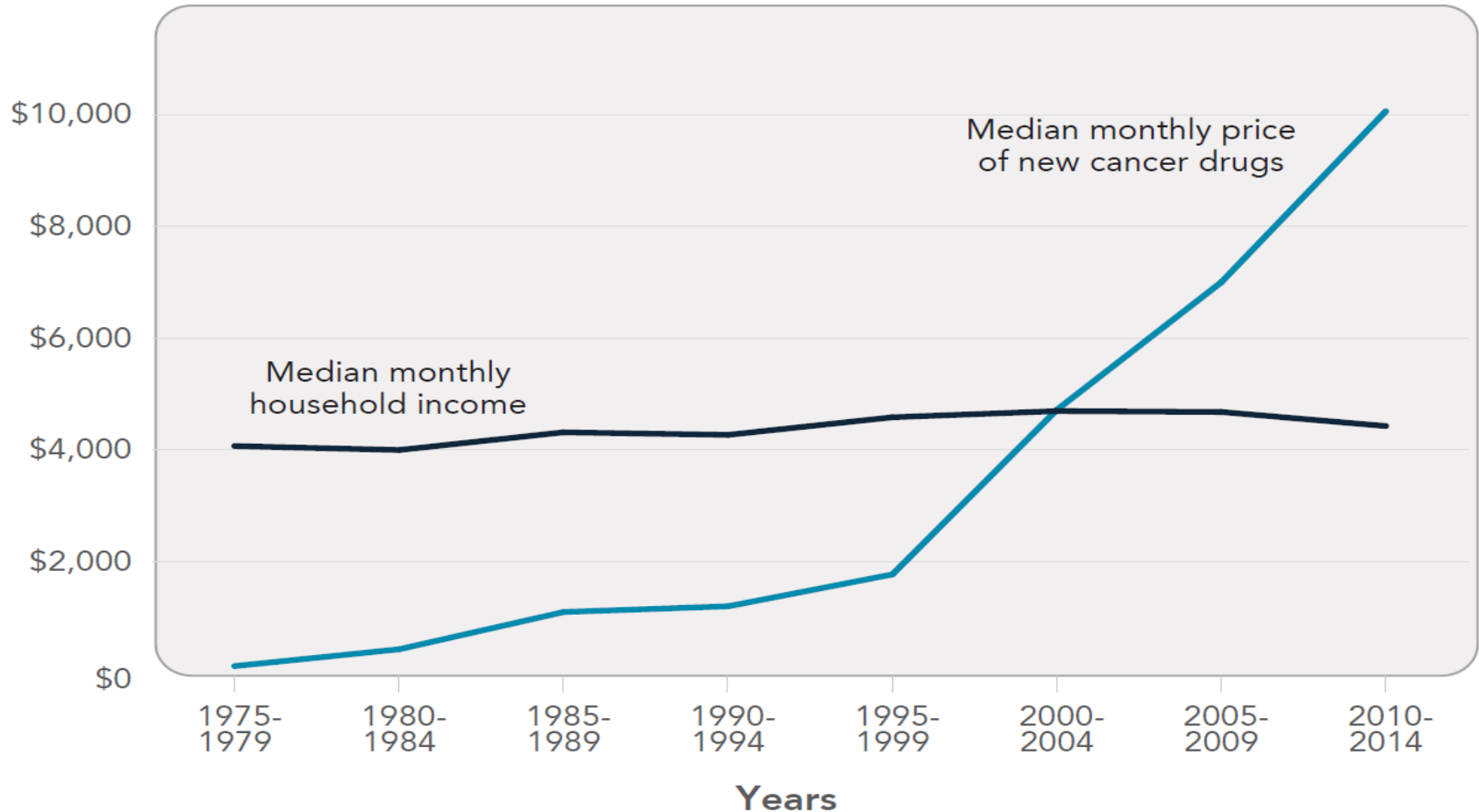
Data source: National Health Interview Survey (NHIS) and NHIS Mortality files. Multivariable weighted Cox Proportional Hazards Models included number of conditions, sex, race/ethnicity, marital status, educational attainment, geographic region, and survey year

Source: Yabroff KR, Han X, Song W, Zhao J, Jemal A, Zheng Z. Association of cancer history and medical financial hardship with mortality in the United States. J Clin Oncol 2020; 38: 29 Suppl.86.

Recent Trends Affecting Financial Hardship

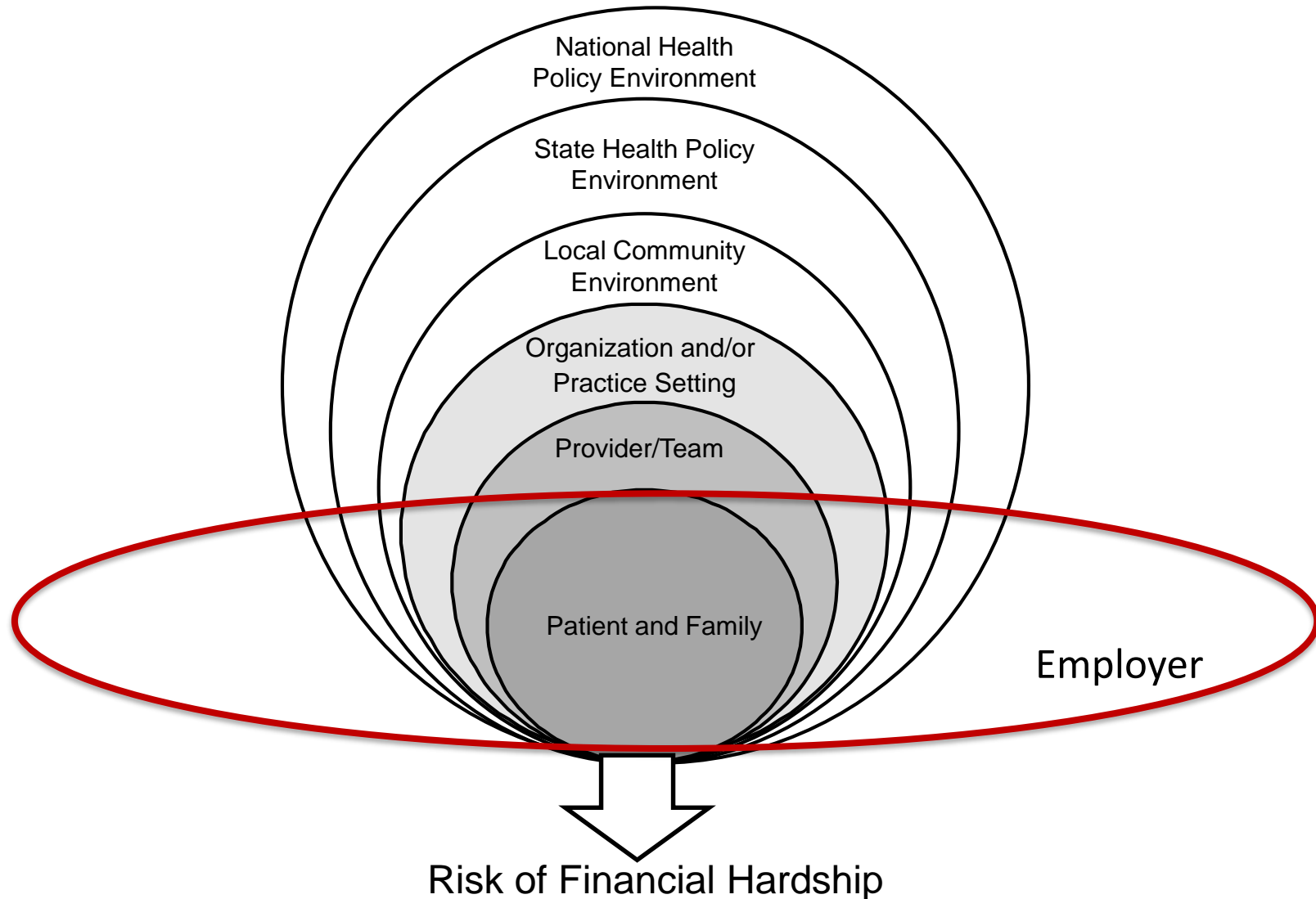
- Increasing treatment cost
- Greater treatment intensity
- Health insurance coverage
 - High deductible health insurance plans
 - Patient cost-sharing (among the insured)
- Increases in uninsured
- COVID-19 Pandemic

Launch Price of New Cancer Drugs and Household Income, 1975-2014



Source: Prasad V, Jesus K, Mailankody S. The high price of anticancer drugs: origins, implications, barriers, solutions. Nat Rev Clin Oncol. 2017.

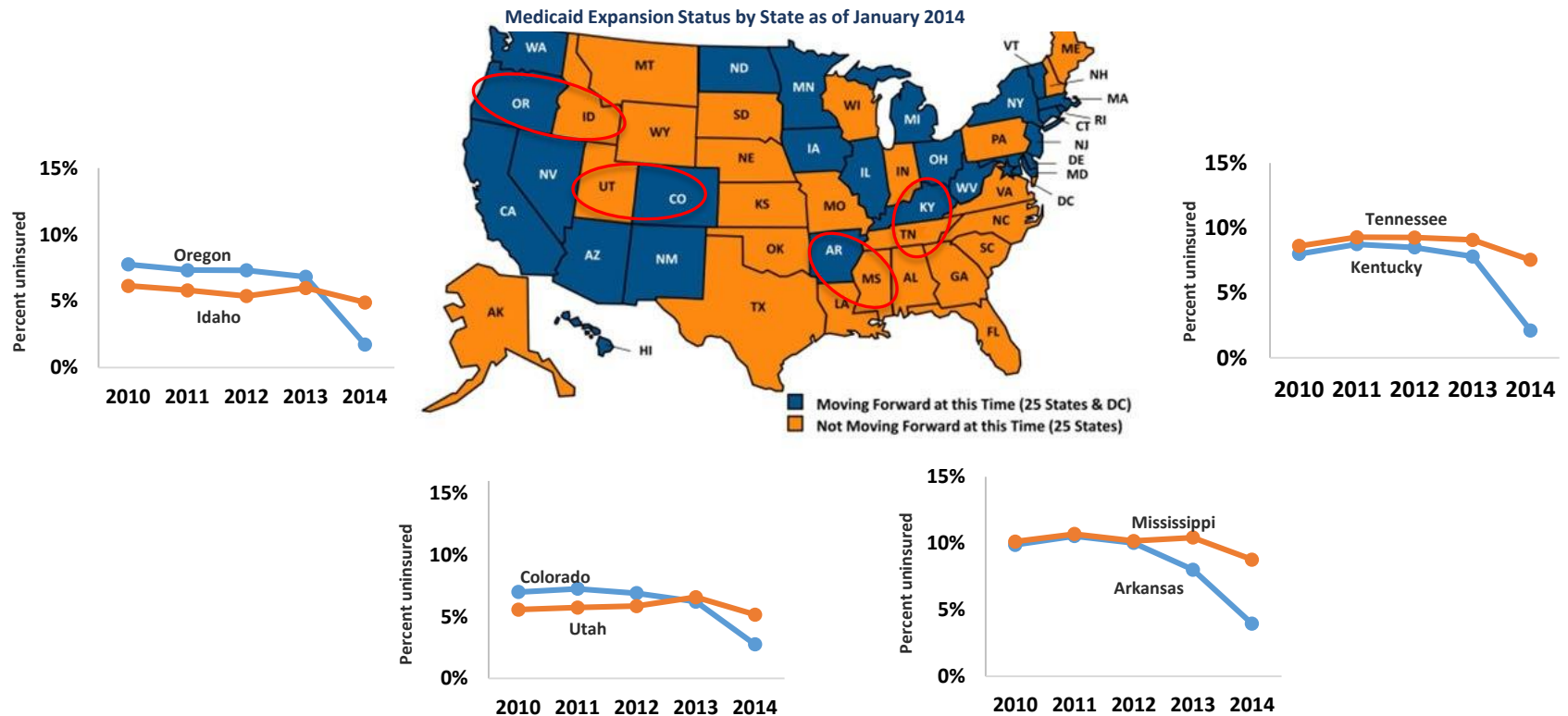
Factors at Multiple Levels Associated with Financial Hardship



Potentially Modifiable Factors at Multiple Levels

- **Provider/Team:** How can the team screen for, discuss, and address financial hardship?
- **Employer:** What are incentives for offering workers comprehensive health insurance and paid sick leave?
- **Policy:** Would further Medicaid expansions as part of the Affordable Care Act reduce financial hardship and improve outcomes? What are additional health insurance coverage expansion and paid sick leave options?

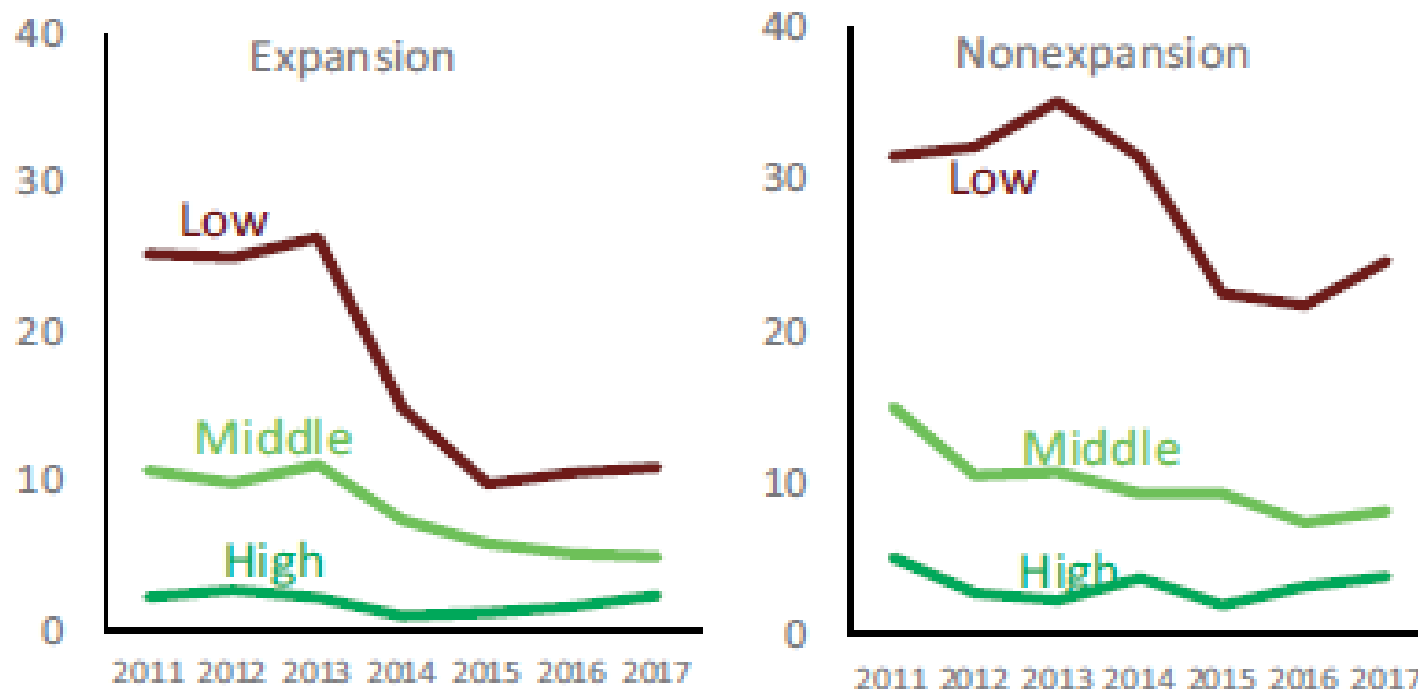
State variation in reduction of percent uninsured among newly diagnosed cancer patients aged 18-64



Medicaid expansion associated with earlier stage diagnosis

Han X, Yabroff KR, Ward E, Brawley OW, Jemal A. Comparison of Insurance Status and Diagnosis Stage among Patients with Newly Diagnosed Cancer Before vs After Implementation of the Patient Protection and Affordable Care Act. *JAMA Onc.* 2018 Dec 1; 4(12)

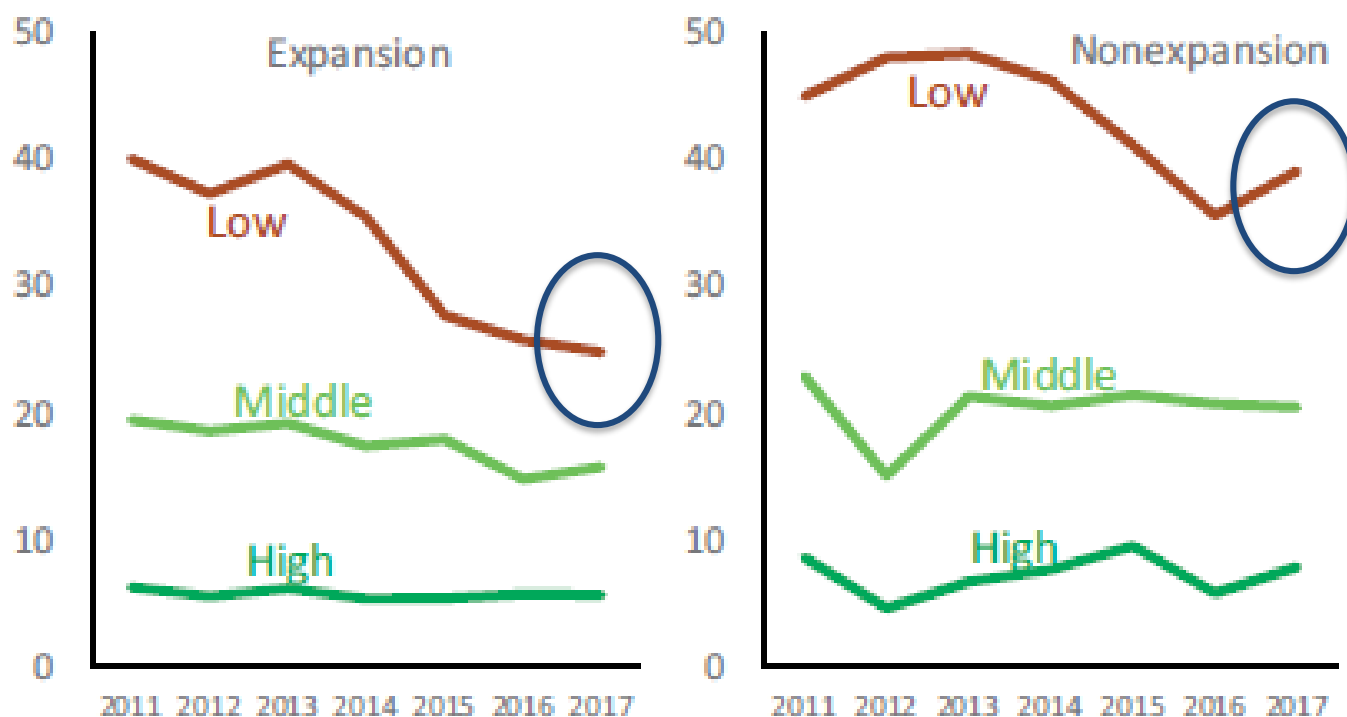
Percent of Cancer Survivors Reporting Uninsurance by Income in Medicaid Expansion and Non-Expansion States



Data from BRFSS in all 50 states and DC.

SOURCE: Han X, Jemal A, Zheng Z, Sauer AG, Fedewa S, Yabroff KR. Changes in noninsurance and care unaffordability among cancer survivors following the Affordable Care Act [published online ahead of print, 2019 Nov 5]. *J Natl Cancer Inst.* 2019;djz218.

Percent of Cancer Survivors Reporting Care Unaffordability by Income in Medicaid Expansion and Non-Expansion States

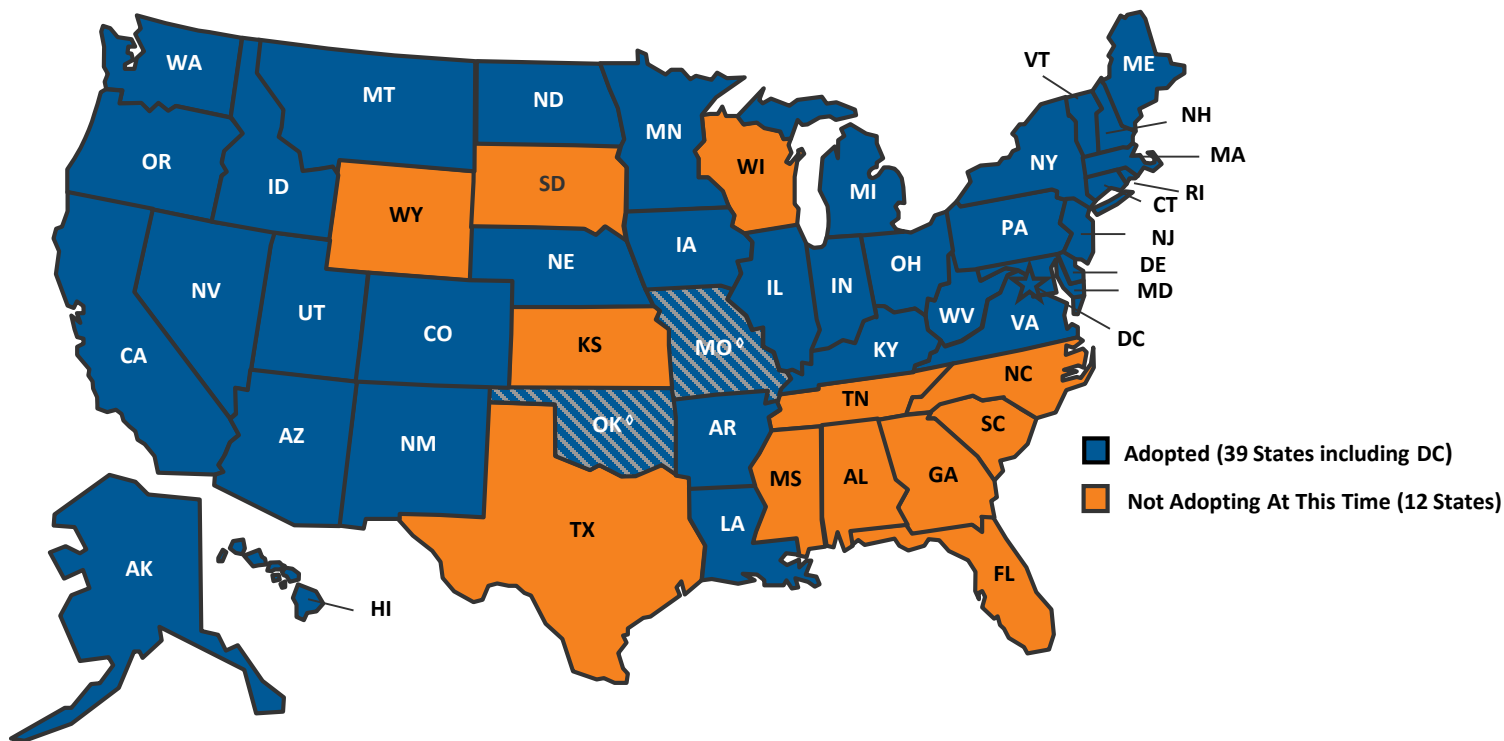


Data from BRFSS in all 50 states and DC.

Question: "Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?"

SOURCE: Han X, Jemal A, Zheng Z, Sauer AG, Fedewa S, Yabroff KR. Changes in noninsurance and care unaffordability among cancer survivors following the Affordable Care Act [published online ahead of print, 2019 Nov 5]. *J Natl Cancer Inst*. 2019;djz218.

Status of State Medicaid Expansion Decisions, October 2020

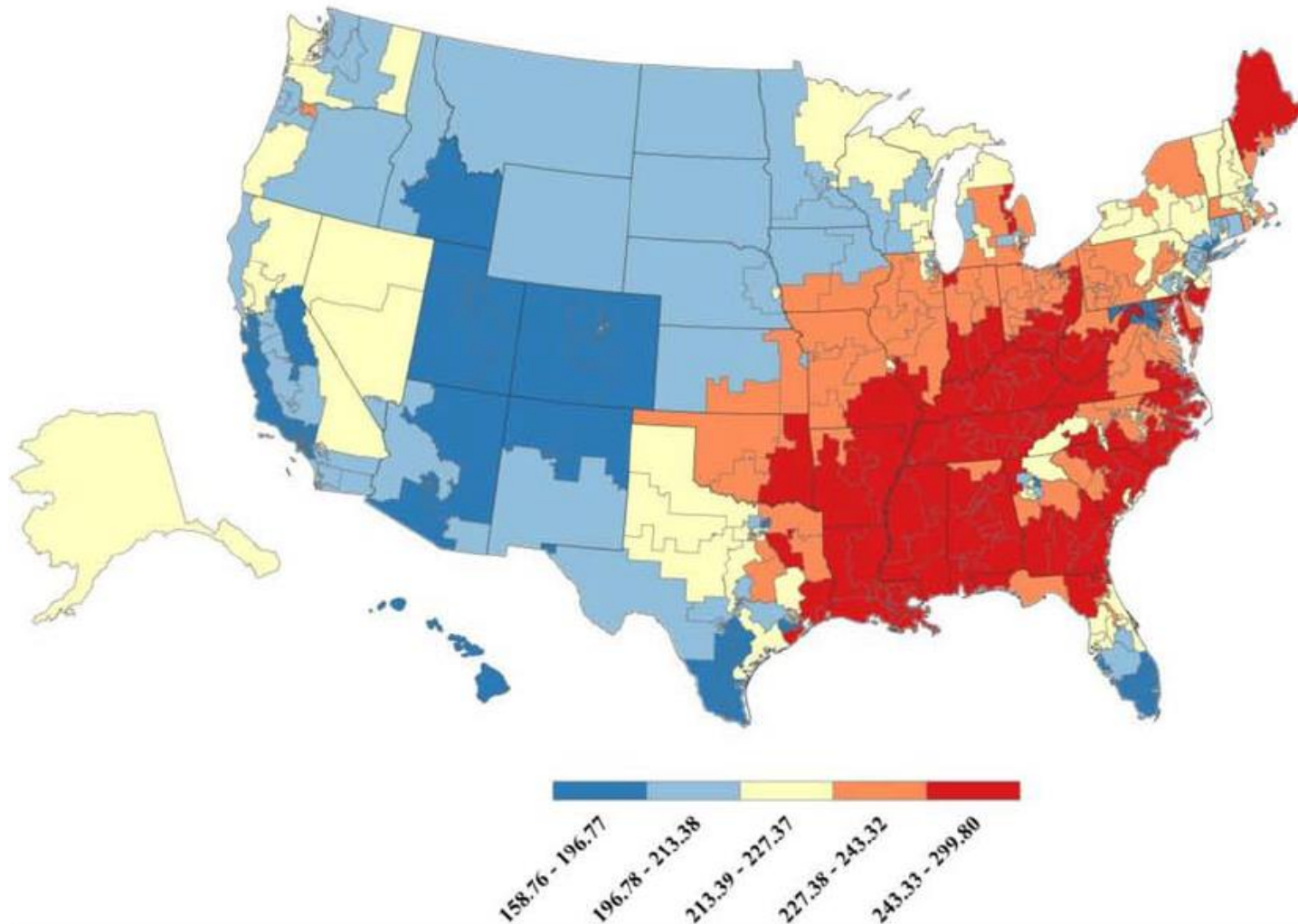


NOTES: Current status for each state is based on KFF tracking and analysis of state activity. ♦Expansion is adopted but not yet implemented in MO and OK. (See link below for additional state-specific notes).

SOURCE: "Status of State Action on the Medicaid Expansion Decision," KFF State Health Facts, updated October 21, 2020.

<https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/>

Geographic Disparities in Cancer Mortality Rates Among Males, 2002-2011



Comment

- Decades of scientific evidence showing positive effects of health insurance on health
- The COVID-19 pandemic illuminates and exacerbates many challenges with healthcare “system” in US
 - Disparities in care and outcomes
 - Lack of coordinated public health and data infrastructure for informing care delivery and research
 - Linkage of health insurance coverage to employment for the working-age population
 - Need for paid sick leave for workers



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