

# Medical Financial Hardship Among Cancer Survivors in the United States



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# Cancer Survivorship in the United States

- Cancer survivors can experience lasting effects of disease and its treatment
- Compared to individuals without a cancer history, cancer survivors have greater
  - Risk for new cancers and chronic conditions
  - Healthcare expenditures, including out-of-pocket spending
  - Limitations in amount or kind of work
  - Risk of bankruptcy

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.

# Patient Experiences with Financial Hardship due to Cancer

“I am still paying for debts accrued from co-payments or hospital bills not covered by my insurance.. and paying credit card debt that was accrued during my time out of work.”

“We had to let our home go back to the bank...after 20 years of home ownership we had to file bankruptcy.”

## **Patient Experiences with Financial Hardship due to Cancer (continued)**

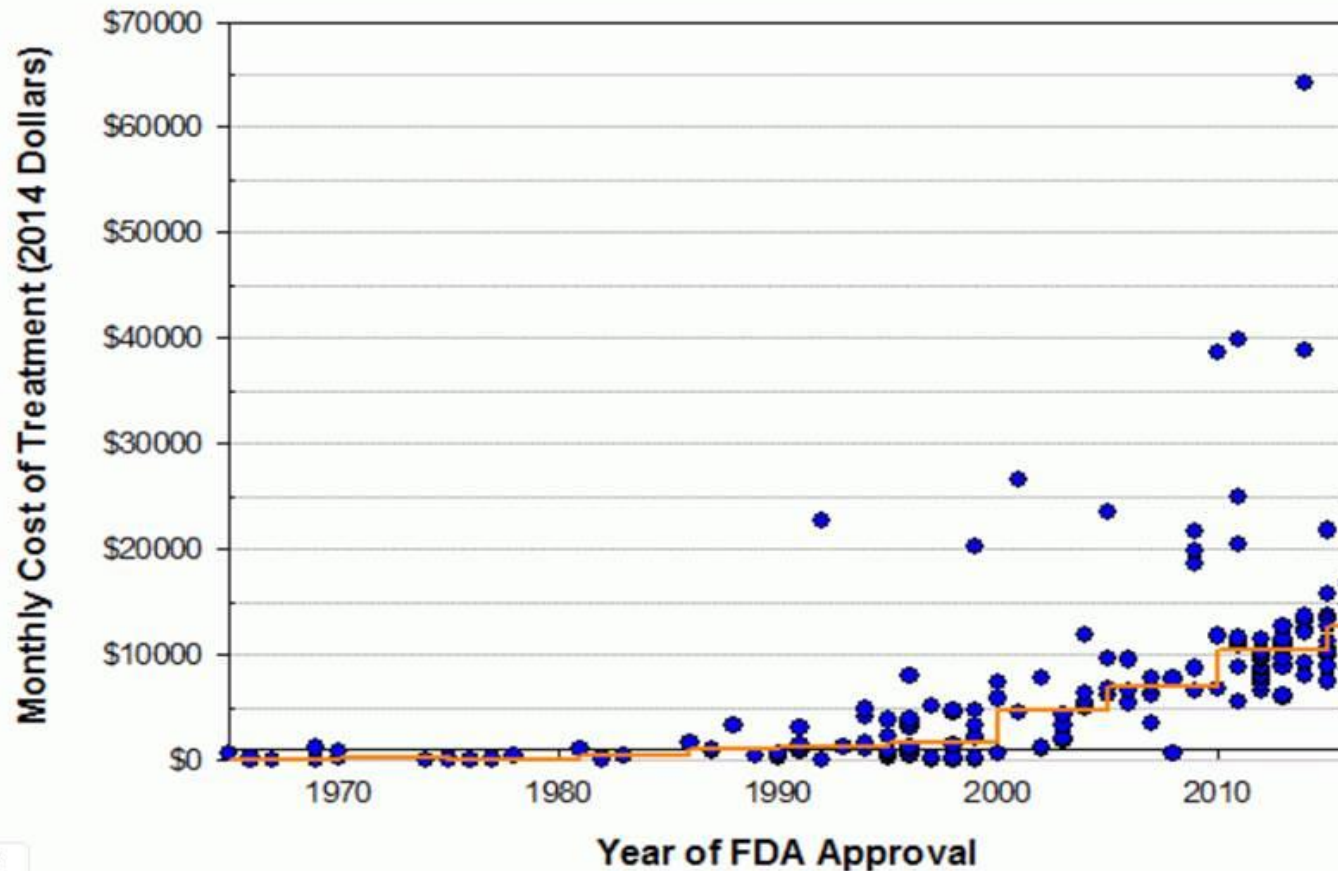
“I paid most of my costs out-of-pocket. My savings were wiped out...now I struggle and am ashamed by my lack of funds. I don't know that I will ever recover financially. It is a considerable stress...”

“I stayed with a company that provides excellent health benefits rather than seek higher paying jobs where the benefits might not be as good.”

# 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)
    - Copayments
    - Coinsurance
  - Underinsured/uninsured
- COVID-19

## Monthly and Median Costs of Cancer Drugs at the Time of FDA Approval 1965-2016

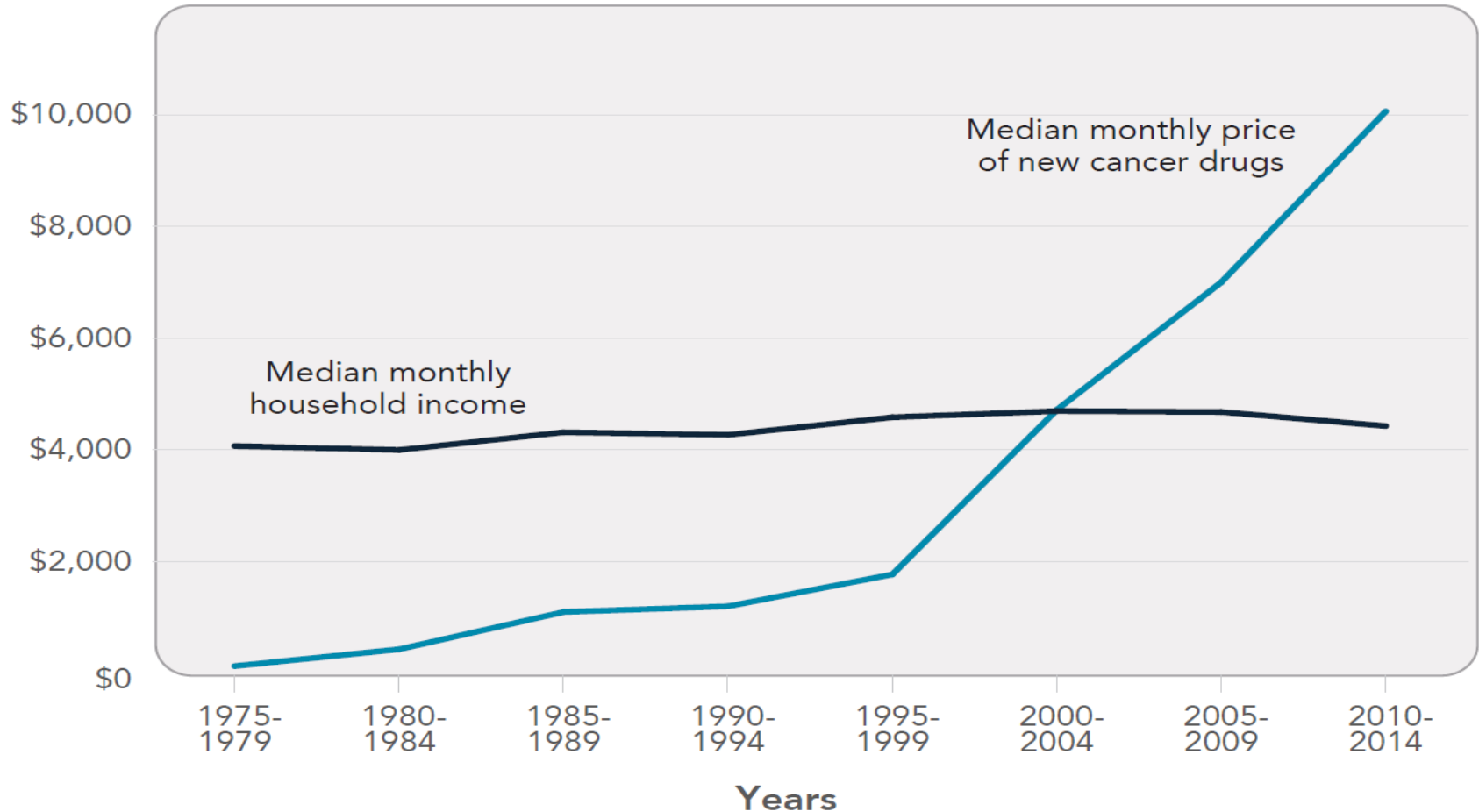


Shown are costs for 1 month of cancer treatment for a person who weighs 70 kg or has a body-surface area of 1.7 m<sup>2</sup>. Prices have been adjusted to 2007 dollars and reflect the total price for the drug at the time of approval, including both the amount of Medicare reimbursement and the amount paid by the patient or by a secondary payer.

Source: Bach PB. Limits on Medicare's ability to control rising spending on cancer drugs. N Engl J Med 2009; 360:626-633.

<https://www.mskcc.org/research-programs/health-policy-outcomes/cost-drugs>

# 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.

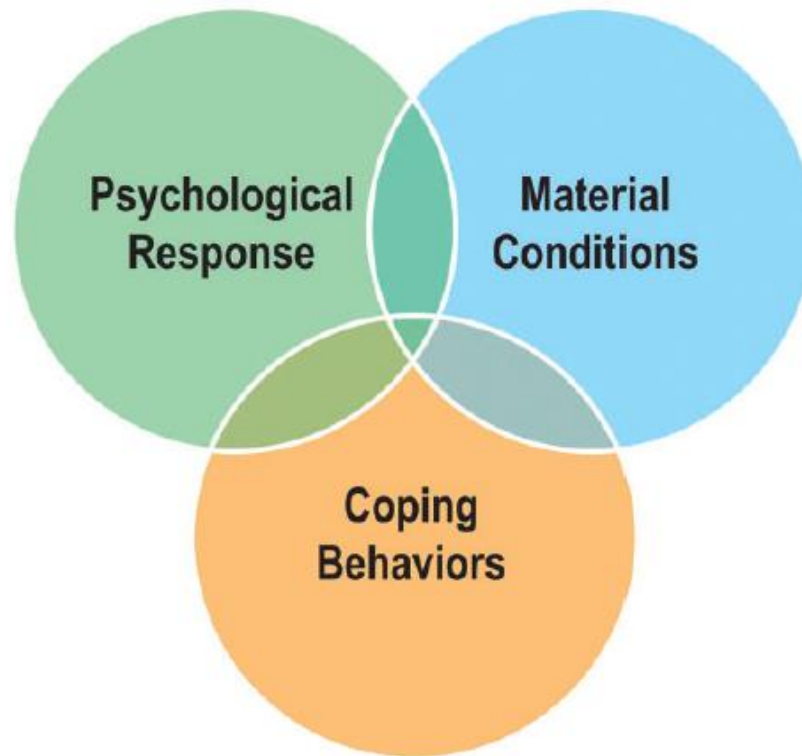
# Bankruptcy Associated with Increased Mortality Risk

- Among cancer survivors in Western Washington State
  - Bankruptcy associated with increased mortality risk (HR= 1.79 (95% CI:1.64 to 1.96)) in adjusted analyses
  - Findings robust in sensitivity analyses
- Hypothesized mechanism(s)
  - Lower quality of life/overall wellbeing
  - Increased stress
  - Decreased treatment adherence or access to care

Source: 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.

Zafar SY. Financial toxicity of cancer care: it's time to intervene. J Natl Cancer Inst 2015;108(5).

# Medical Financial Hardship Framework



Source: Tucker-Seeley R, Yabroff KR. Minimizing the “financial toxicity” associated with cancer care: advancing the research agenda. *J Natl Cancer Inst* 2015; 108(5). Altice CK, Banegas MP, Tucker-Seeley RD, Yabroff KR. Financial hardships experienced by cancer survivors: a systematic review. *J Natl Cancer Inst* 2017; 109(2).

# Financial Hardship in Adult Cancer Survivors

	Weighted % (95% CI)
Had to borrow money or go into debt	7.1 (5.7 - 8.9)
Filed for bankruptcy	1.7 (1.0 - 2.8)
Unable to cover share of the costs of medical care	11.9 (9.8 - 14.3)
Other financial sacrifices	9.4 (7.6 - 11.5)
<b>Any material financial hardship</b>	<b>20.4 (17.7-23.4)</b>
<b>Any psychological financial hardship</b>	<b>22.5 (19.6 - 25.7)</b>

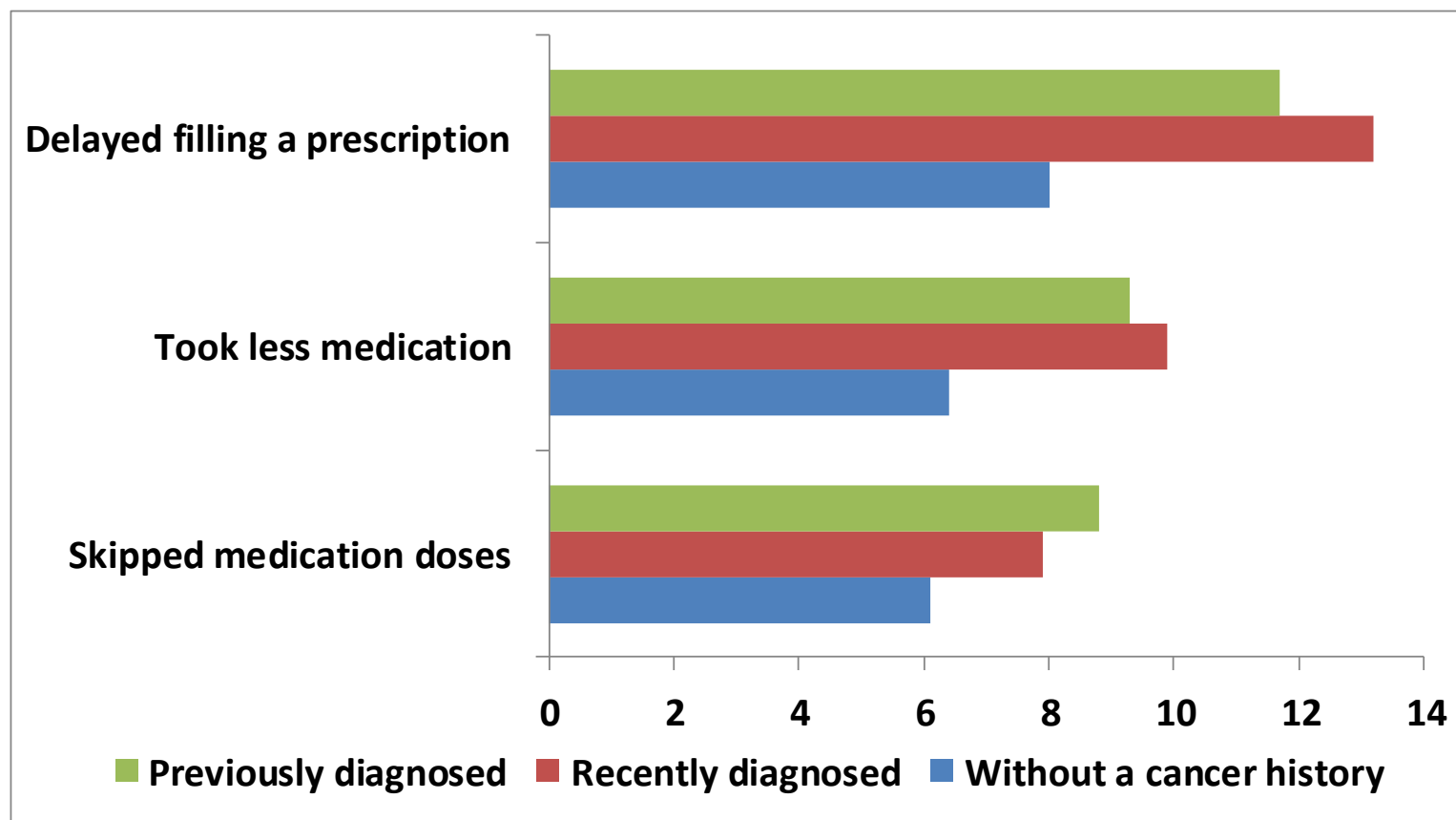
Source: Yabroff KR, Dowling EC, Guy Jr GP, Banegas M, Davidoff A, Han X, Virgo KS, McNeel T, Chawla N, Blanch-Hartigan D, Kent EE, Li C, Rodriguez J, de Moor JS, Zheng Z, Jemal A, Ekwueme DU. Financial hardship associated with cancer in the United States: findings from a population-based sample of adult cancer survivors. *J Clin Oncol* 2016; 34(3):259-67.

# Financial Hardship in Adult Cancer Survivors

	Ages 18-64 y % (95% CI)	Ages ≥ 65 y % (95% CI)
Borrow money or debt	12.9 (10.2-16.2)	2.3 (1.3-4.1)
Bankruptcy	2.3 (1.2-4.2)	1.2 (0.5-2.9)
Unable to cover costs	16.9 (13.8-20.6)	7.7 (5.6-10.5)
<b>Any material hardship</b>	<b>28.4 (24.3-32.8)</b>	<b>13.8 (10.8-17.4)</b>
<b>Any psychological hardship</b>	<b>31.9 (27.5-36.7)</b>	<b>14.7 (11.5-18.5)</b>

Source: Yabroff KR, Dowling EC, Guy Jr GP, Banegas M, Davidoff A, Han X, Virgo KS, McNeel T, Chawla N, Blanch-Hartigan D, Kent EE, Li C, Rodriguez J, de Moor JS, Zheng Z, Jemal A, Ekwueme DU. Financial hardship associated with cancer in the United States: findings from a population-based sample of adult cancer survivors. *J Clin Oncol* 2016; 34(3):259-67.

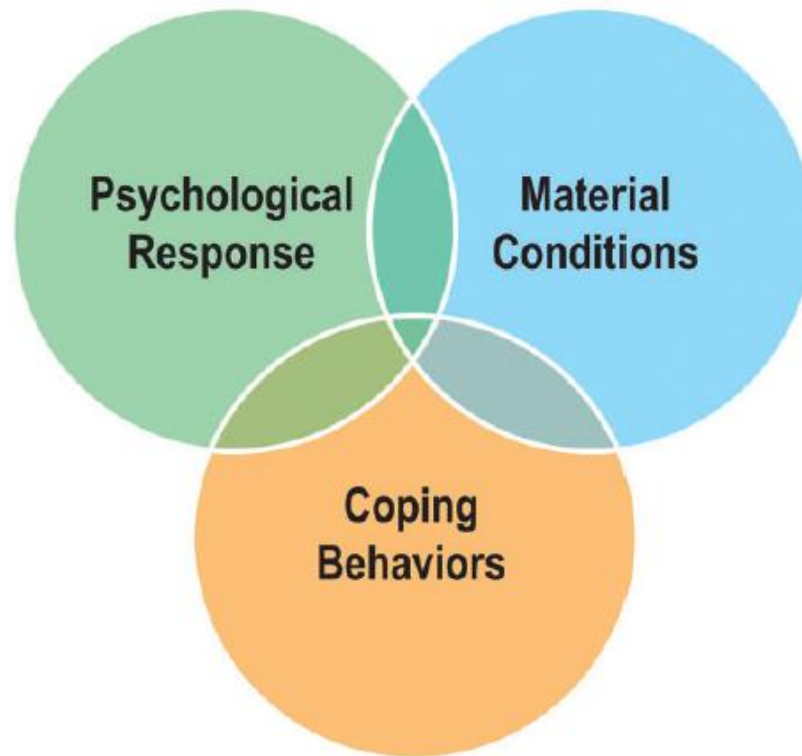
# Cancer History and Behavioral Financial Hardship in Adults Ages 18-64 Years



Predicted marginals from multivariable logistic regressions controlling for the effects of age, race/ethnicity, sex, educational attainment, marital status, number of comorbidity conditions, health insurance coverage, and geographic region

Source: Zheng Z, Han X, Guy GP Jr, Davidoff AJ, Li C, Banegas MP, Ekwueme DU, Yabroff KR, Jemal A. Do cancer survivors change their prescription drug use for financial reasons? Findings from a nationally representative sample in the United States. *Cancer* 2017; 123(8):1453-1463.

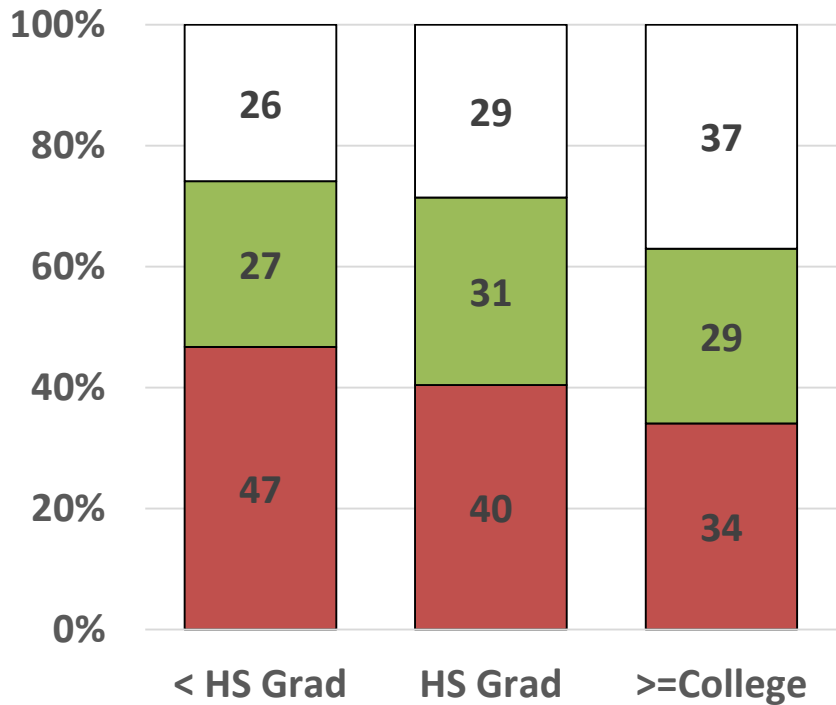
# Medical Financial Hardship Framework



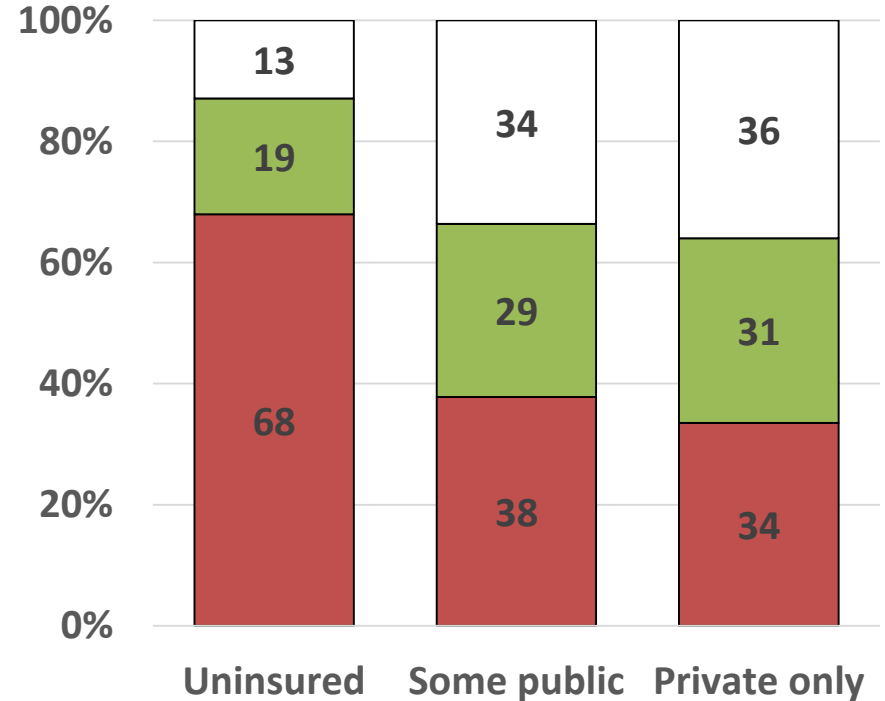
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# Medical Financial Hardship Intensity Among Cancer Survivors Aged 18-64 Years

## Educational Attainment



## Health Insurance Coverage



■ Multiple domains ■ One Domain □ No Hardship

# Patient Characteristics Associated with Financial Hardship

- Younger age
- Lower socioeconomic status
- Uninsured/underinsured
- Unemployed
- Minority race and/or ethnicity
- Rural residence

Sources: Yabroff et al., *J Clin Oncol* 2016; 34(3):259-67.; Banegas M, et al. *Health Aff* 2016 ;35(1):54-61.; Zheng et al., *Cancer* 2017; 123(8):1453-1463.; Altice et al., *J Natl Cancer Inst* 2017; 109(2); Kent et al., *Cancer* 2013; 119:3710-3717; Shankaran et al, *J Clin Oncol* 2012; 30:1608-1614; Jagsi et al., *J Clin Oncol* 2014; 32:1269-1276; Zafar et al., *J Oncol Pract* 2015;11:145-150.

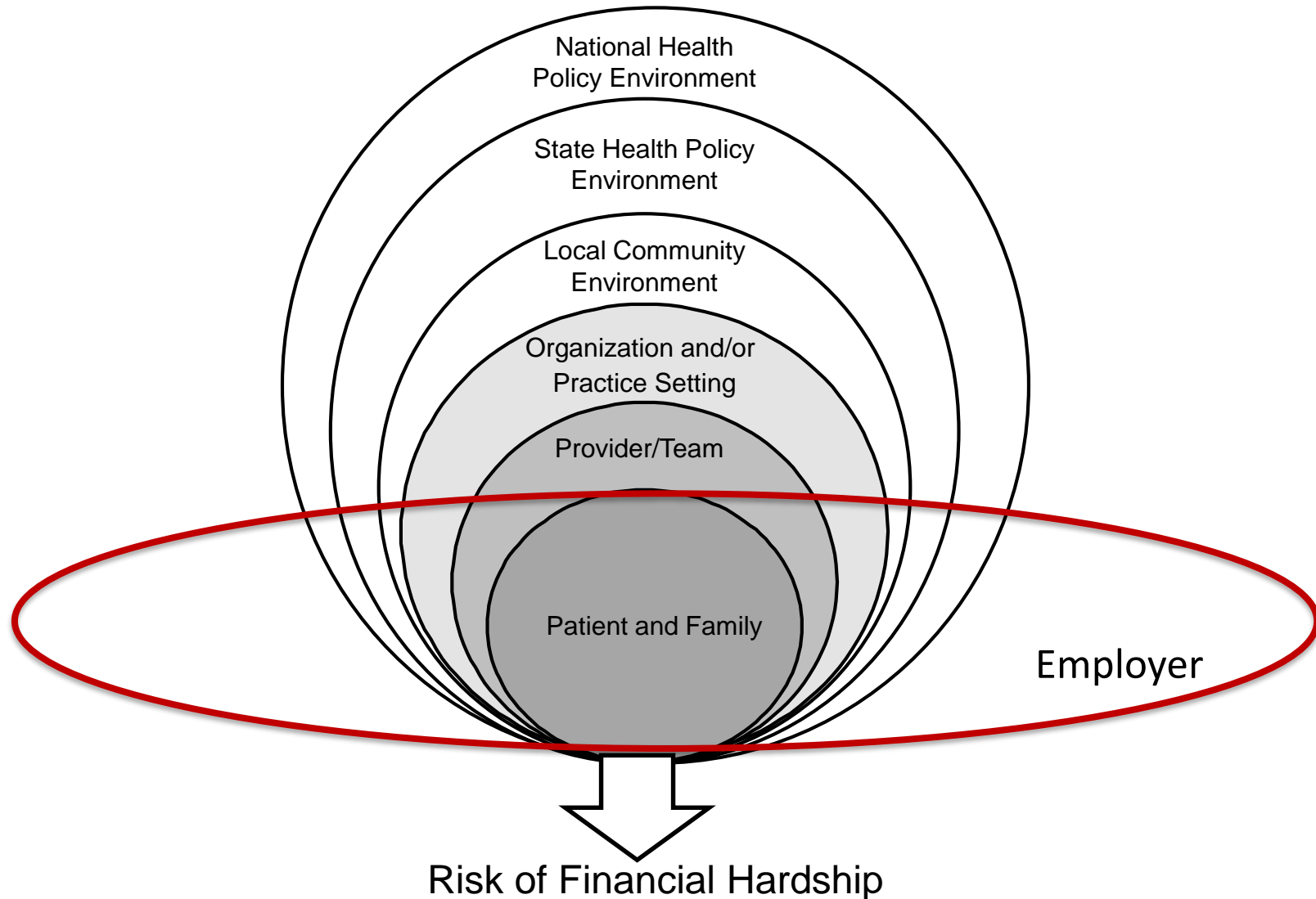
# Summary

- Different aspects of medical financial hardship: material, psychological, behavioral
- Financial hardship relatively common, even many years following cancer diagnosis and treatment
- Consistent evidence about patient factors associated with hardship
- **Potential for widening disparities in outcomes for cancer survivors**

# Research Gaps

- Few longitudinal studies and little known about
  - Trajectory of financial hardship
  - Associations with health outcomes
  - Variation by cancer type, treatment types(s), duration of treatment(s)
  - Caregiver burden
- Little research about provider, community, and state and federal policy factors associated with hardship
- Limited intervention research to address hardship

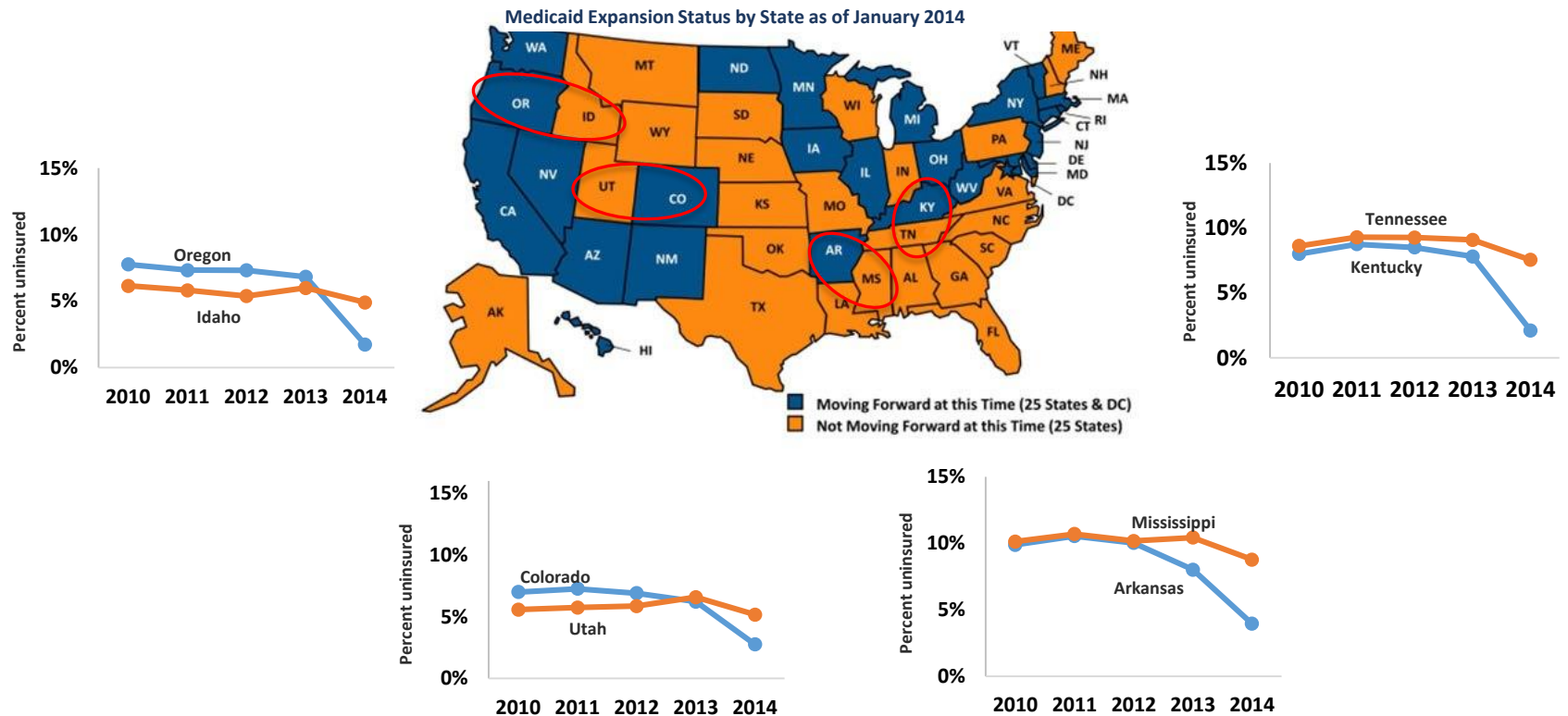
# Factors at Multiple Levels Associated with Financial Hardship



# Potentially Modifiable Factors at Multiple Levels

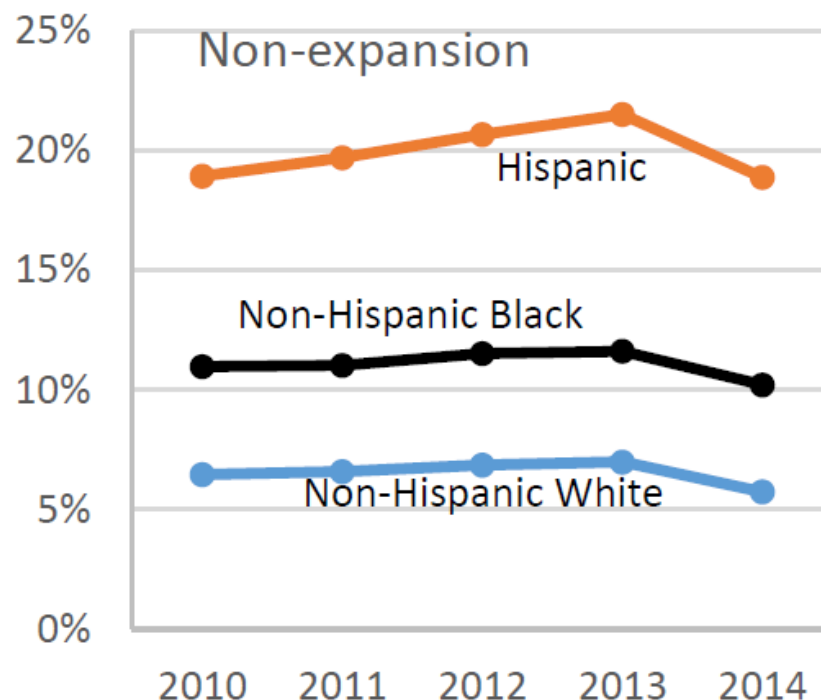
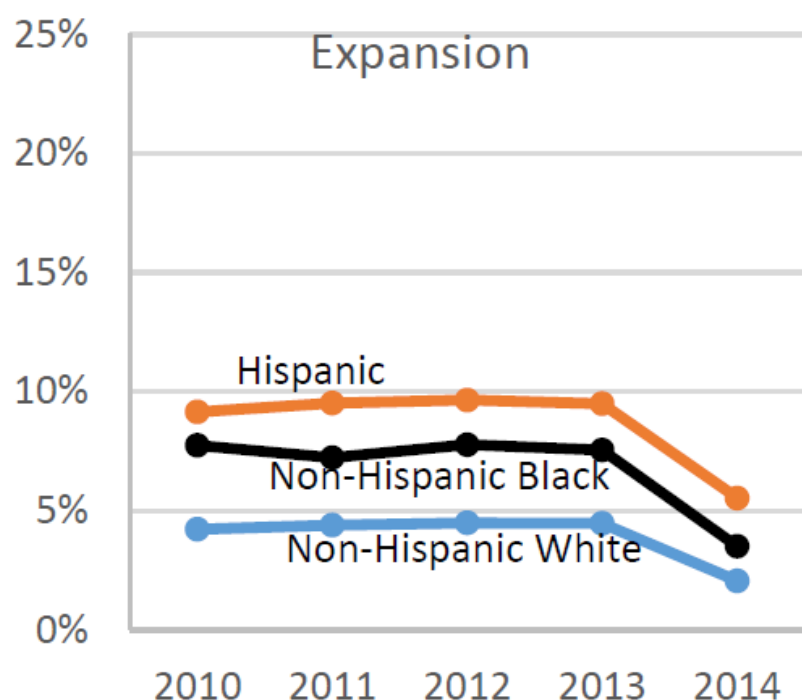
- **Patient and family:** What are the critical components of financial navigation? What is the role of health insurance coverage type?
- **Provider/Team:** Who is the best member of the team to discuss financial hardship?
- **Employer:** What is the “business case” for offering health insurance? Paid sick leave?
- **Policy:** How has Medicaid expansion as part of the Affordable Care Act affected coverage and affordability?

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



Source: 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)

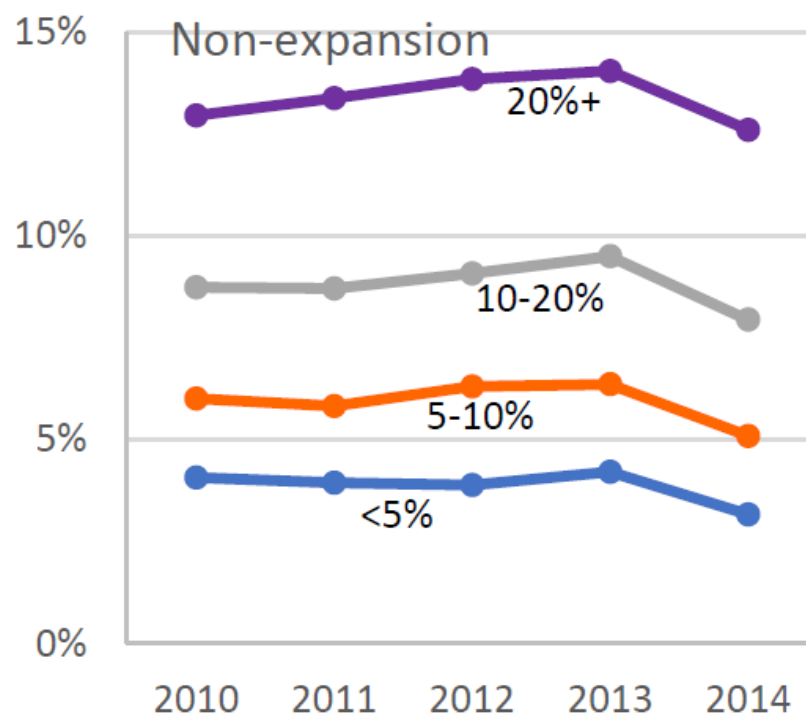
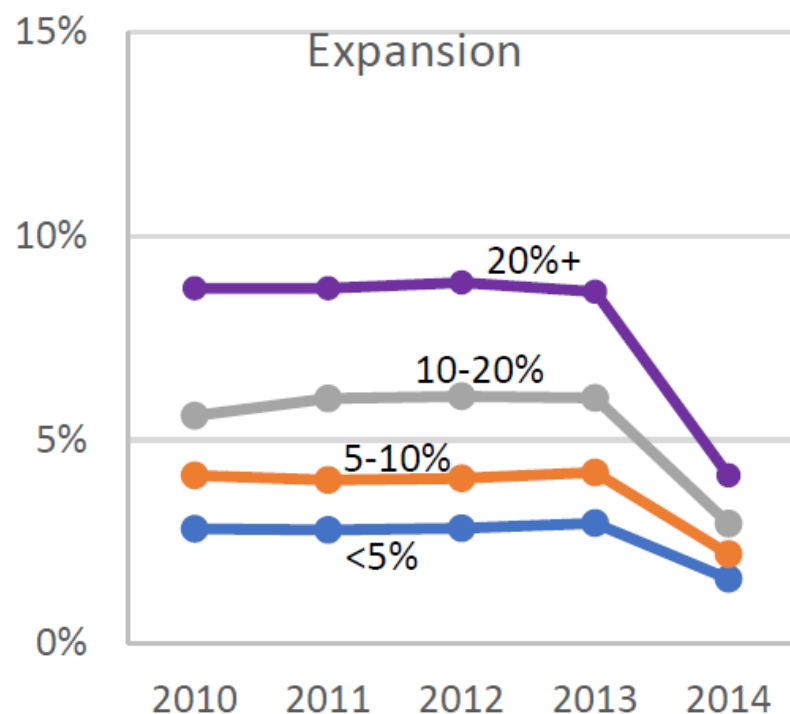
# Percent Uninsured by Race/Ethnicity among Newly Diagnosed Cancer Patients in Medicaid Expansion and Non-Expansion States



Data from cancer registries in 40 states.

SOURCE: Han X, Yabroff KR, Ward E, Brawley O, Jemal A. Changes in percent uninsured among cancer patients by state and sociodemographic factors following the Affordable Care Act. *JAMA Oncol* 2018; 4(12):1713-1720.

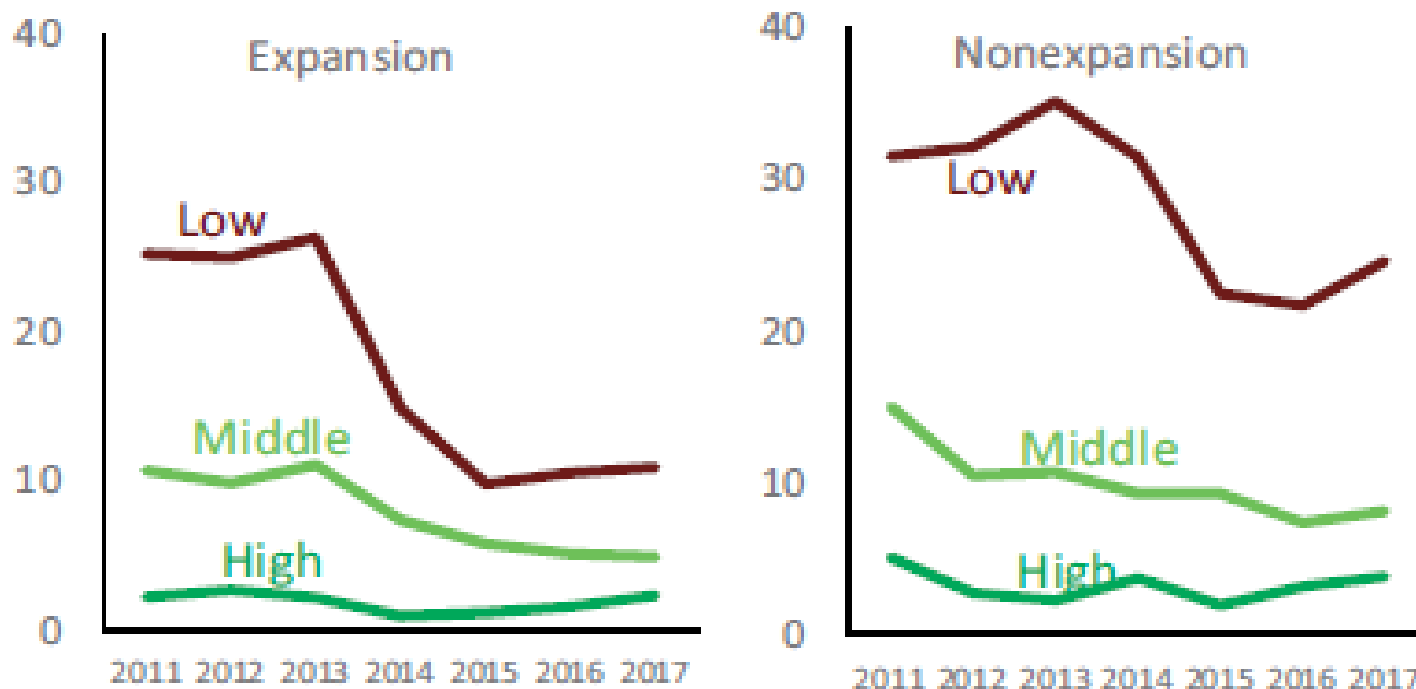
# Percent Uninsured by Persons in Poverty among Newly Diagnosed Cancer Patients in Medicaid Expansion and Non-Expansion States



Data from cancer registries in 40 states.

SOURCE: Han X, Yabroff KR, Ward E, Brawley O, Jemal A. Changes in percent uninsured among cancer patients by state and sociodemographic factors following the Affordable Care Act. *JAMA Oncol* 2018; 4(12):1713-1720.

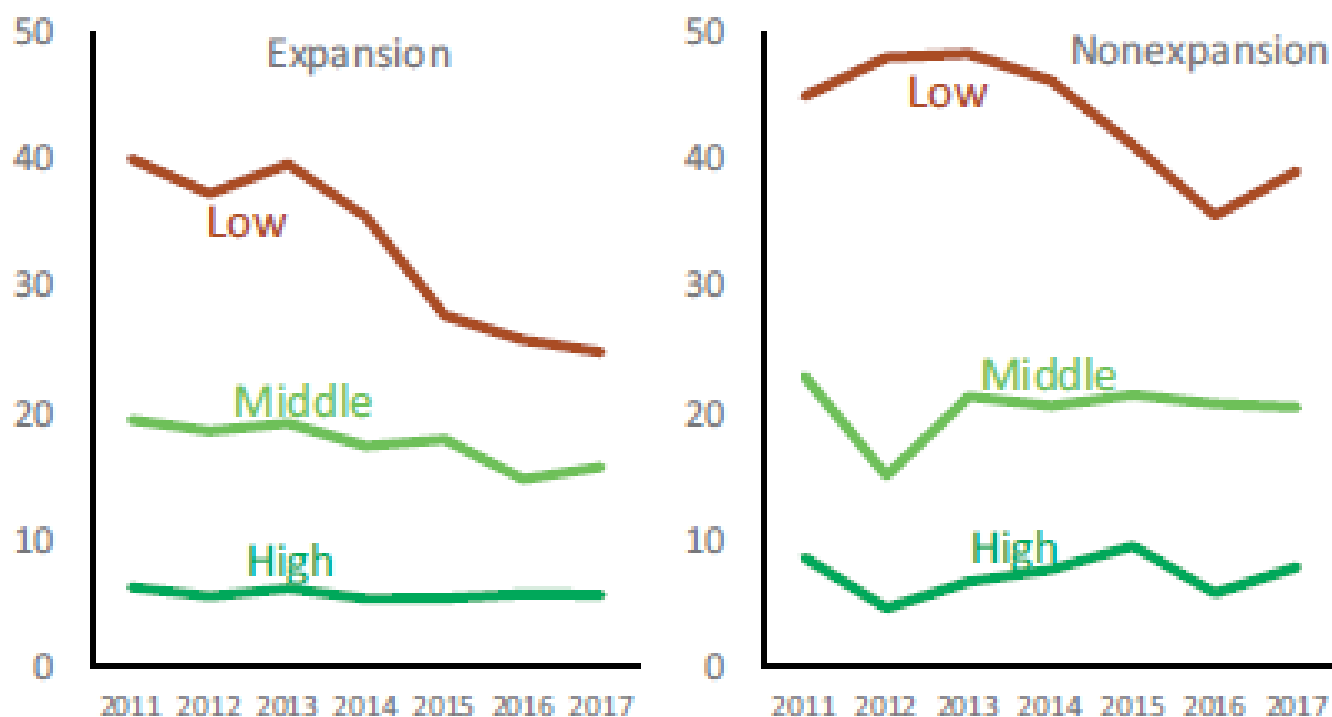
# Percent of Cancer Survivors Reporting Uninsurance by Income in Medicaid Expansion and Non-Expansion States



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

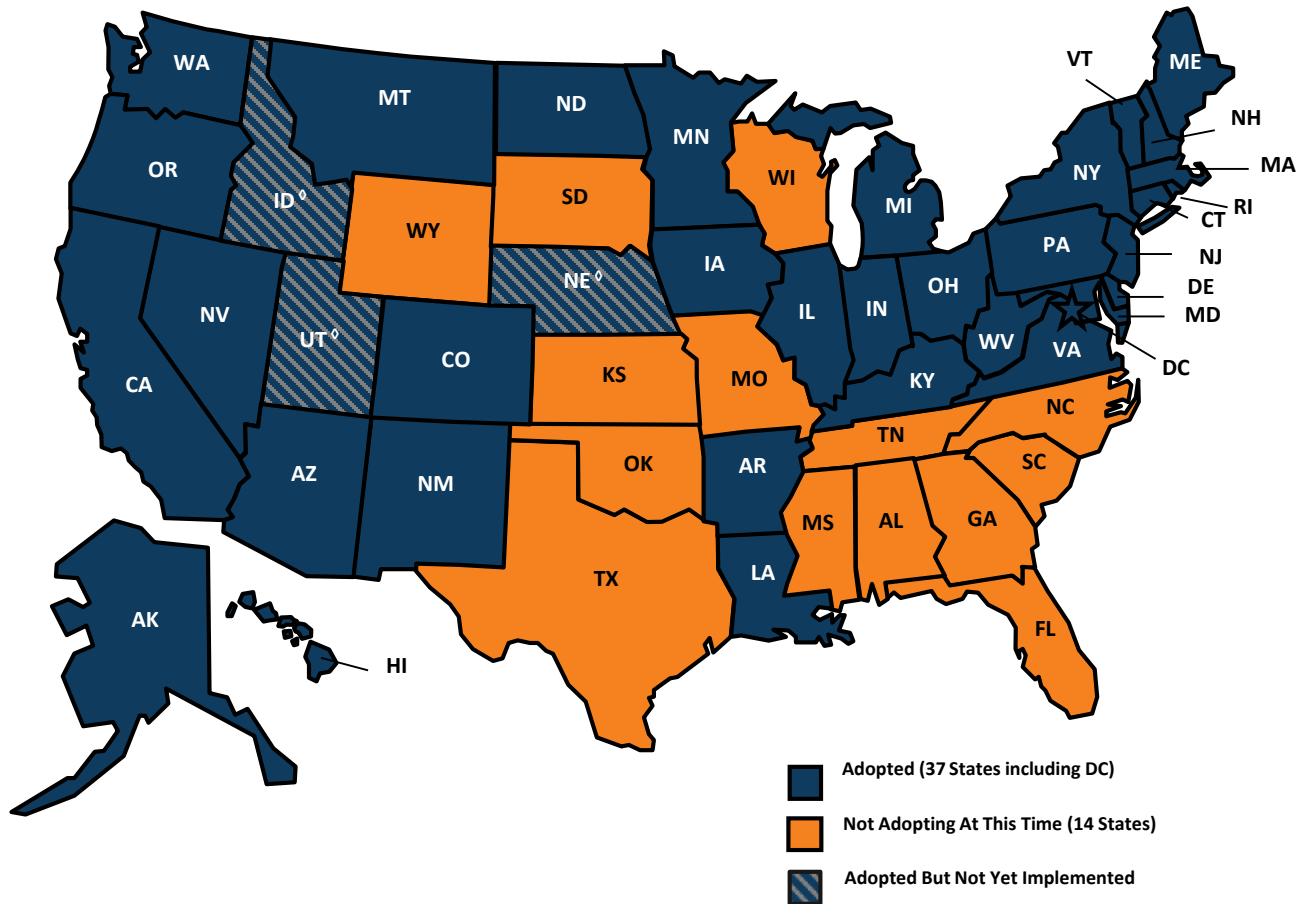


Data from BRFSS in all 50 states and DC.

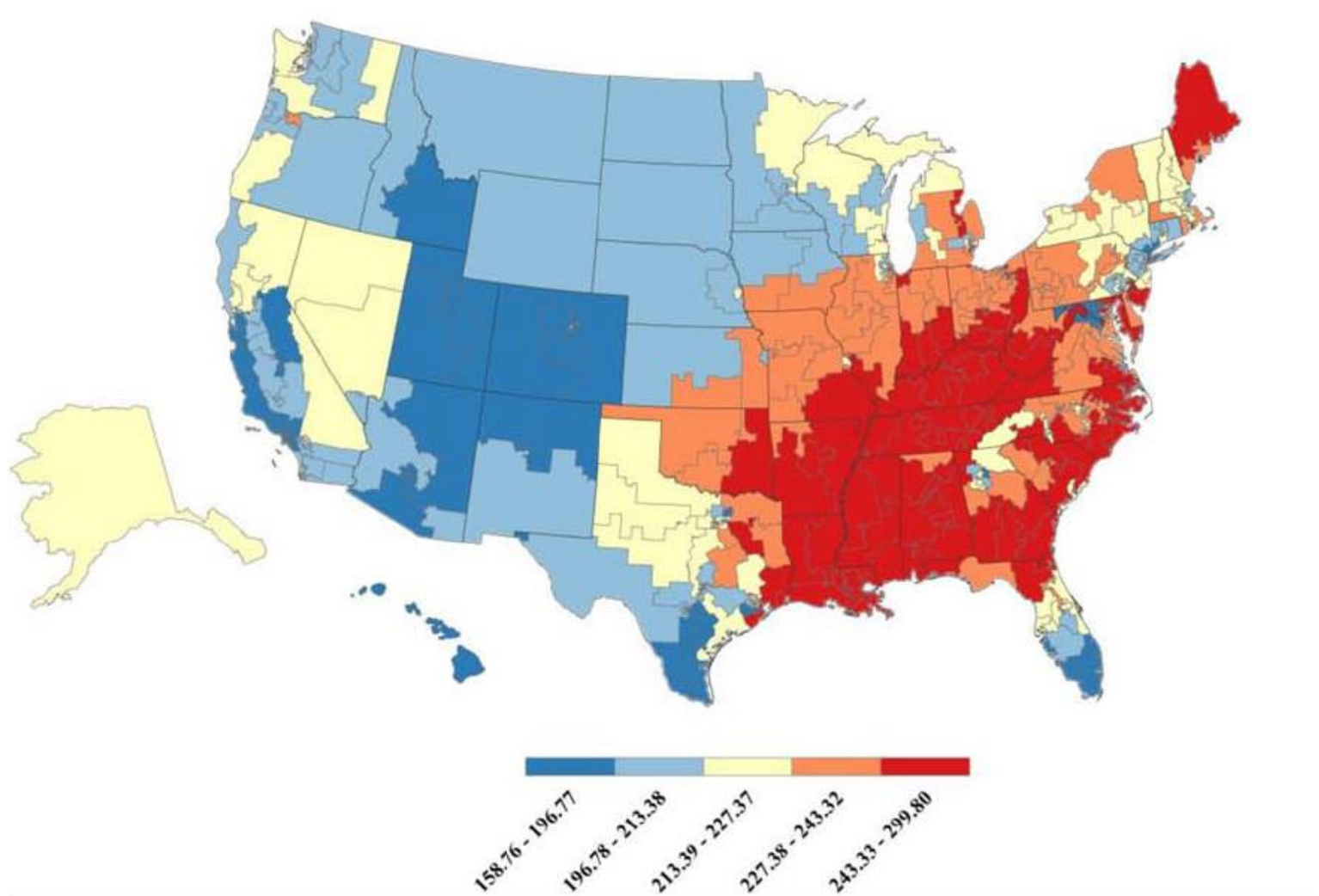
Question: "Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?"

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.

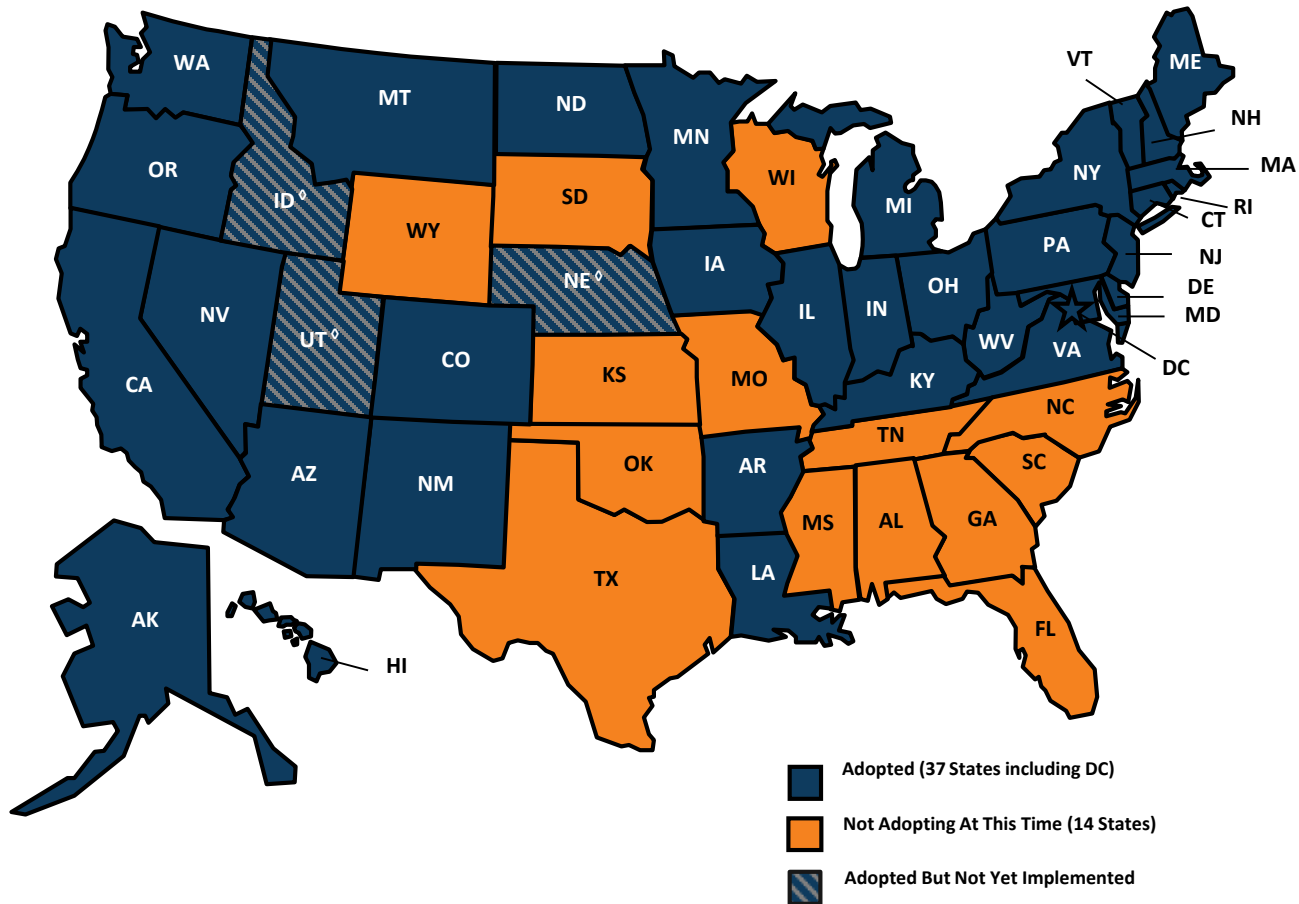
# Medicaid Expansion Status by State as of August 2019



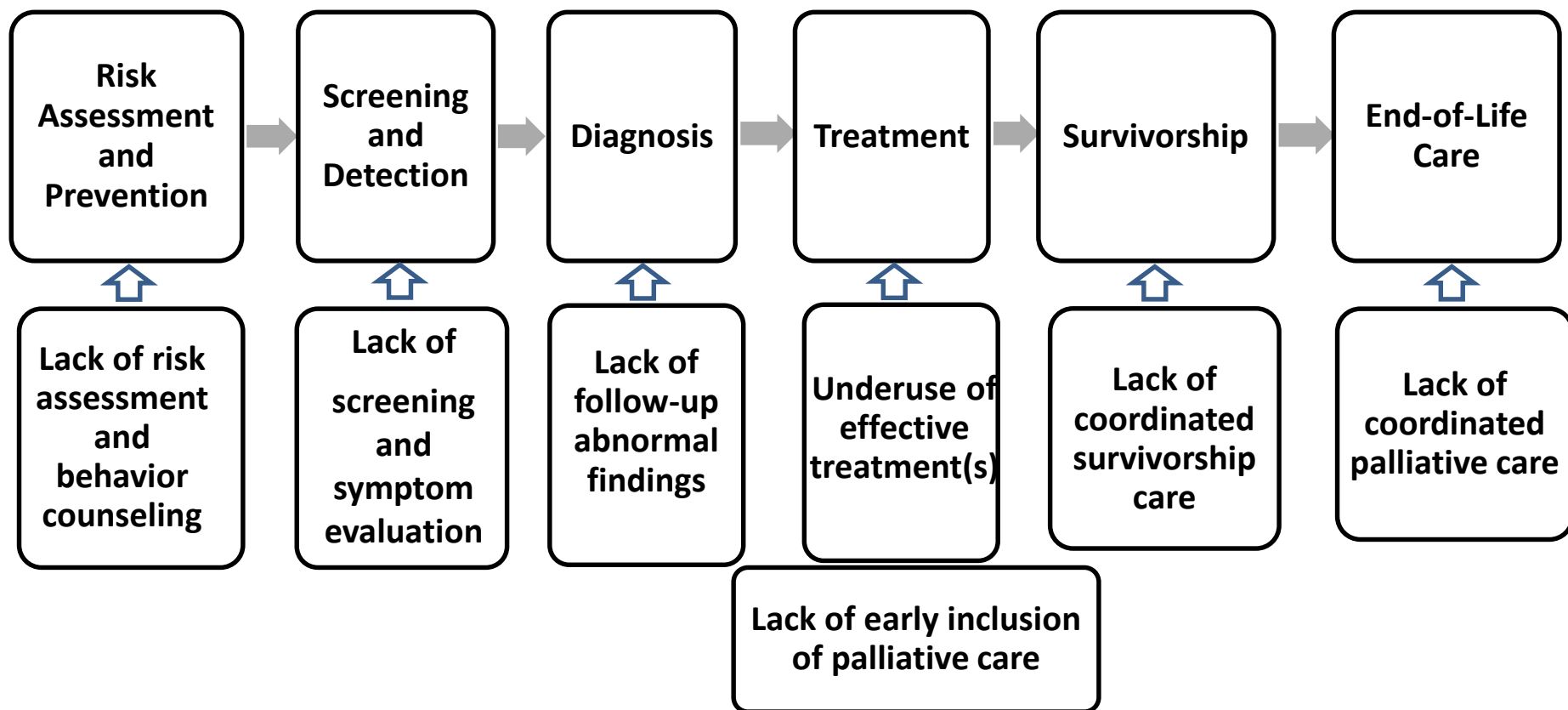
# Geographic Disparities in Cancer Mortality Rates Among Males, 2002-2011



# Medicaid Expansion Status by State as of August 2019



# Health Insurance and Medical Financial Hardship and Potential Breakdowns Across the Cancer Control Continuum





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