



# Financial Hardship in Cancer Survivors

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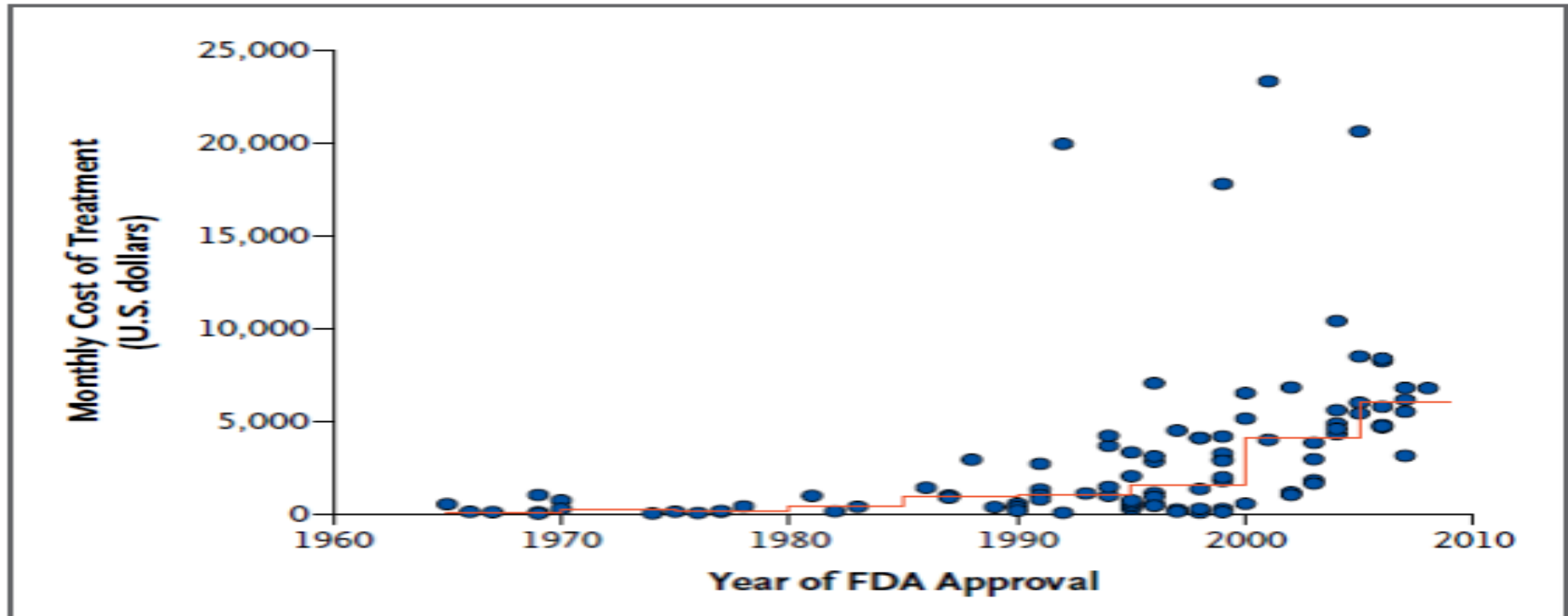
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The views expressed are those of the speaker and do not necessarily represent the official position of Department of Health and Human Services

# Cancer Survivorship in United States

- Increasing prevalence of cancer survivorship
- Cancer survivors can experience lasting effects of disease and its treatment
- Compared to individuals without a cancer history, cancer survivors have greater
  - Risk for additional cancers and chronic conditions
  - Healthcare expenditures, including out-of-pocket spending
  - Limitations in amount or kind of work
  - Forgone or delayed healthcare because of cost

# Dramatic Increases in Monthly Price of Cancer Drugs



**Figure 1. Monthly and Median Costs of Cancer Drugs at the Time of Approval by the Food and Drug Administration (FDA), from 1965 through 2008.**

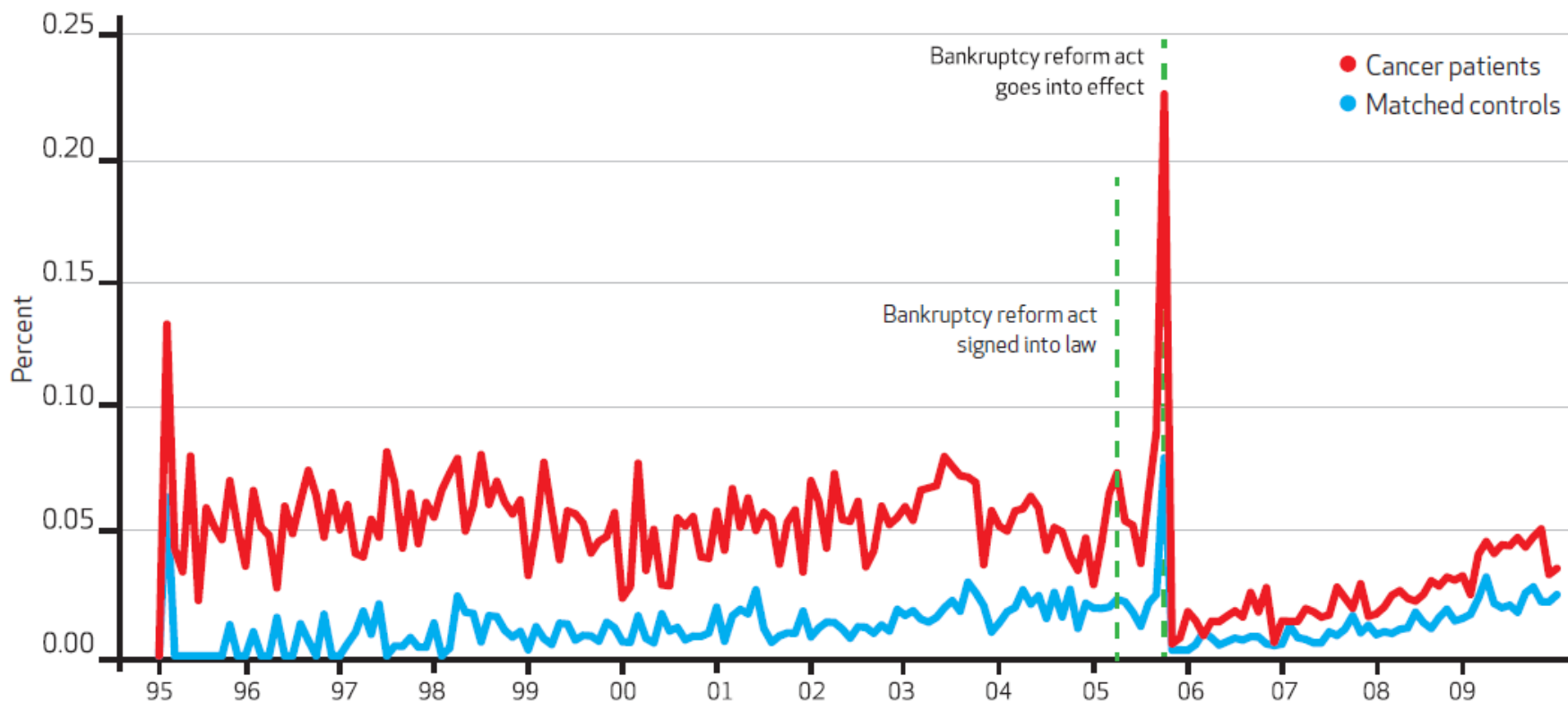
Shown are costs for 1 month of cancer treatment for a person who weighs 70 kg or has a body-surface area of 1.7 m<sup>2</sup>. The red line indicates median prices during a 5-year period. Prices have been adjusted to 2007 dollars and reflect the total price for the drug at the time of approval, including both the amount of Medicare reimbursement and the amount paid by the patient or by a secondary payer. (For details about the costs of individual drugs, see the Supplementary Appendix, available with the full text of this article at [NEJM.org](http://NEJM.org).)

By Scott Ramsey, David Blough, Anne Kirchoff, Karma Kreizenbeck, Catherine Fedorenko, Kyle Snell, Polly Newcomb, William Hollingworth, and Karen Overstreet

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# Washington State Cancer Patients Found To Be At Greater Risk For Bankruptcy Than People Without A Cancer Diagnosis

Monthly Rate Of Bankruptcies For Cancer Patients And Matched Group Without Cancer, Western Washington State, 1995-2009



# 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

- Framework adapted from disparities literature
- Aspects of financial hardship
  - **Material**  
Trouble paying medical bills  
Medical debt
  - **Psychological**  
Worry about medical bills
  - **Behavioral**  
Delay/forgo care because of cost

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).

# National Estimates of Financial Hardship

- Medical Expenditure Panel Survey (MEPS) *Experiences with Cancer Survey*
  - Material and psychological hardship
  - MEPS household survey of cancer survivors (n=1,200)
  - Online survey by LIVESTRONG Foundation (n>6,000)
  - Registry-identified breast, colorectal, lung, melanoma, or prostate cancer survivors by 3 health plans (n=615)
- National Health Interview Survey (NHIS)
  - Behavioral hardship
  - Household survey of cancer survivors and individuals without a cancer history

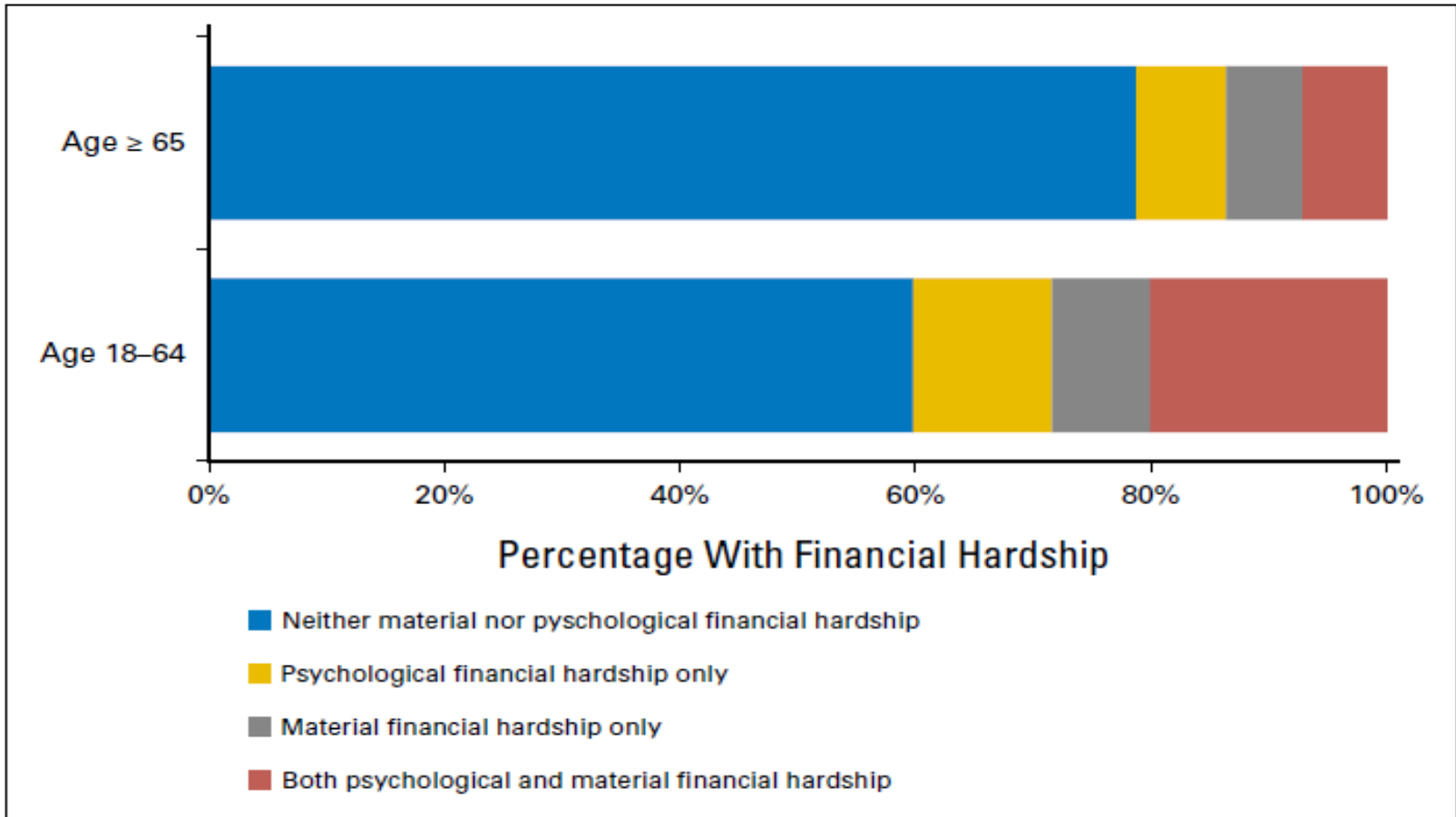
# Financial Hardship in Cancer Survivors: National Estimates from 2011 MEPS *Experiences with Cancer Survey*

|  | Weighted %<br>(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.

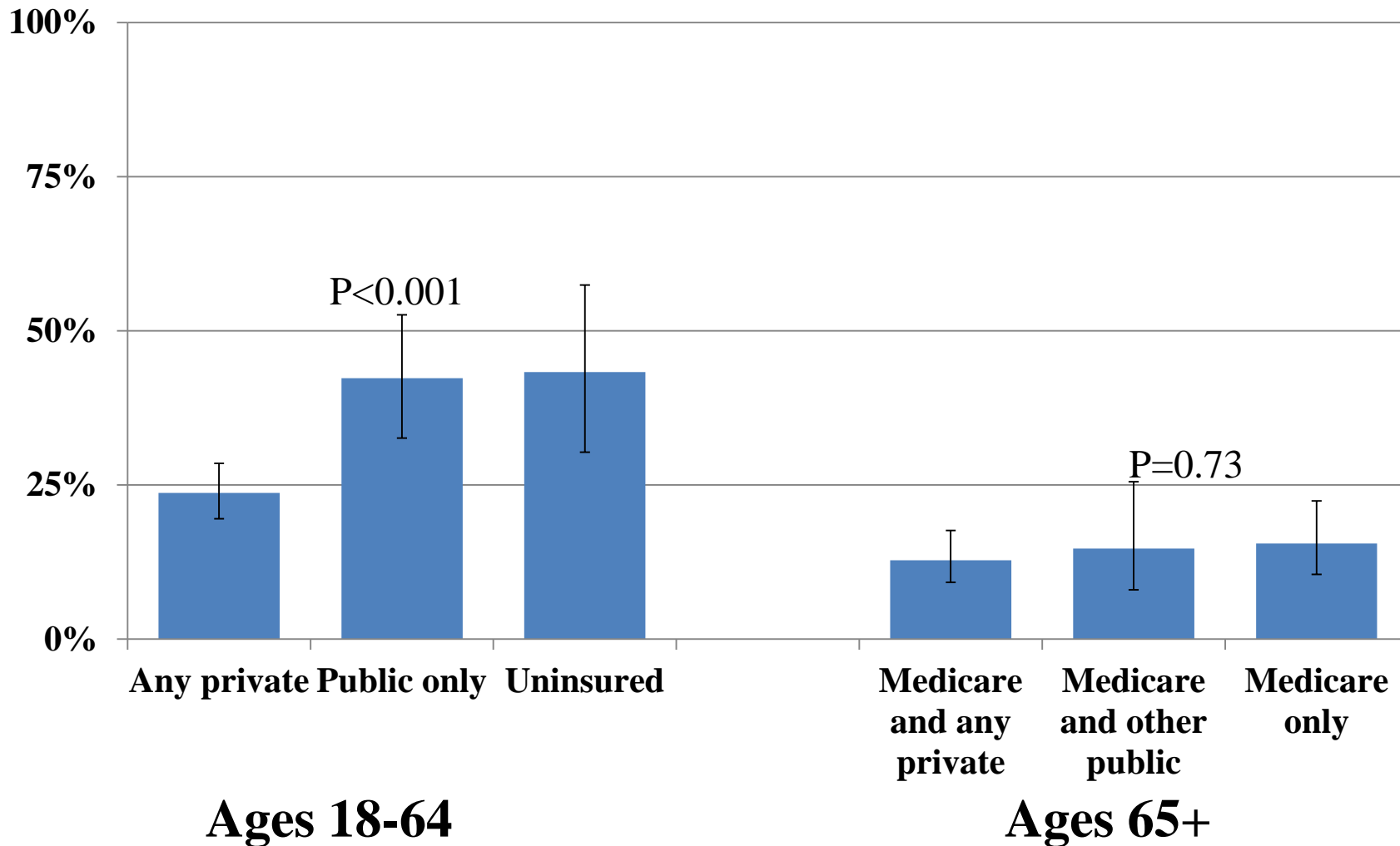


# Material and Psychological Financial Hardship



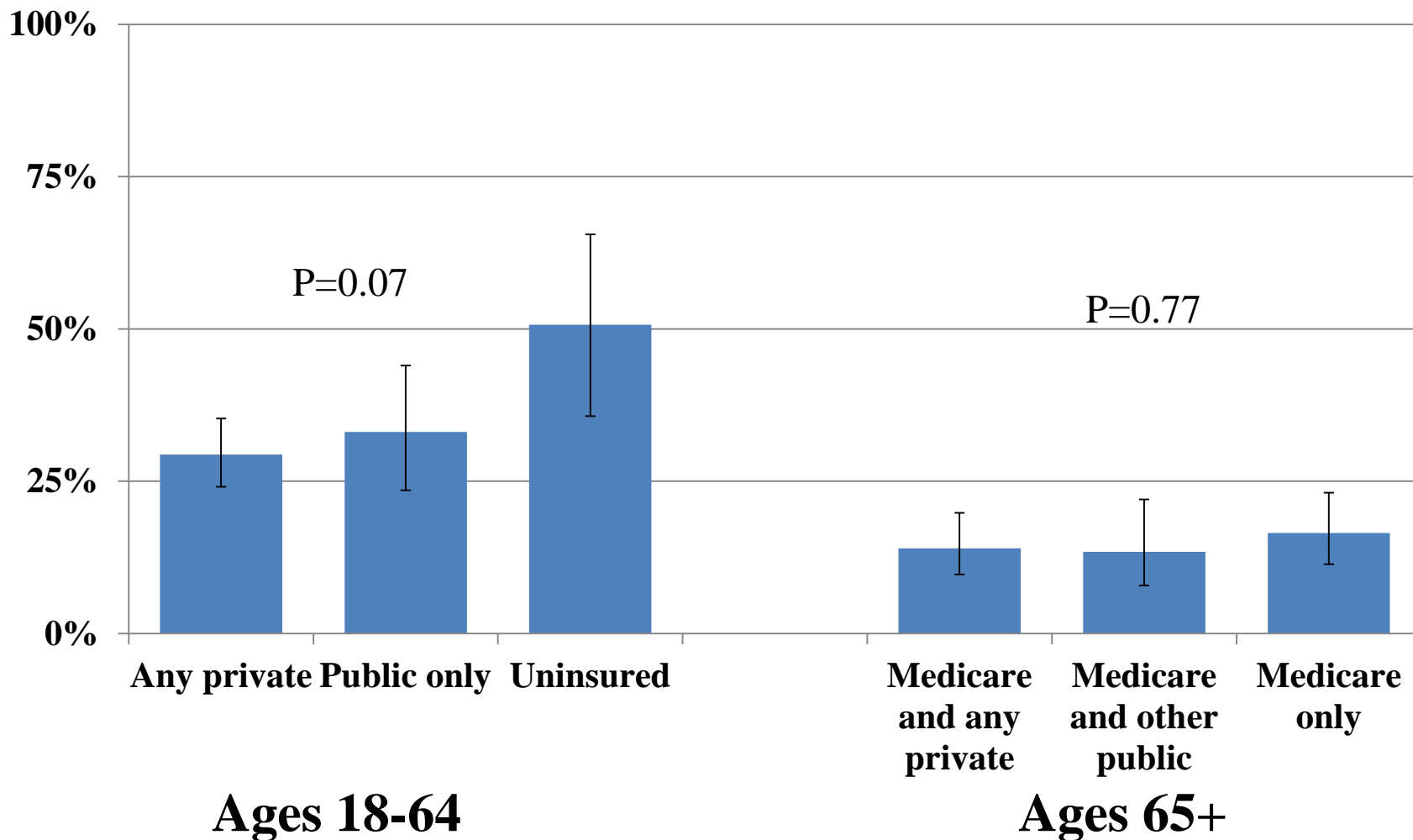
Source: Yabroff KR, Dowling EC, Guy Jr GP, Banegas M, Davidoff A, Han X, Virgo KS, McNeel T, Chawla N, Blanch-Hartigan D, Kent EE, Li C, Rodriguez J, de Moor JS, Zheng Z, Jemal A, Ekwueme DU. Financial hardship associated with cancer in the United States: findings from a population-based sample of adult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

# Material Financial Hardship varies by Age Group and Type of Health Insurance



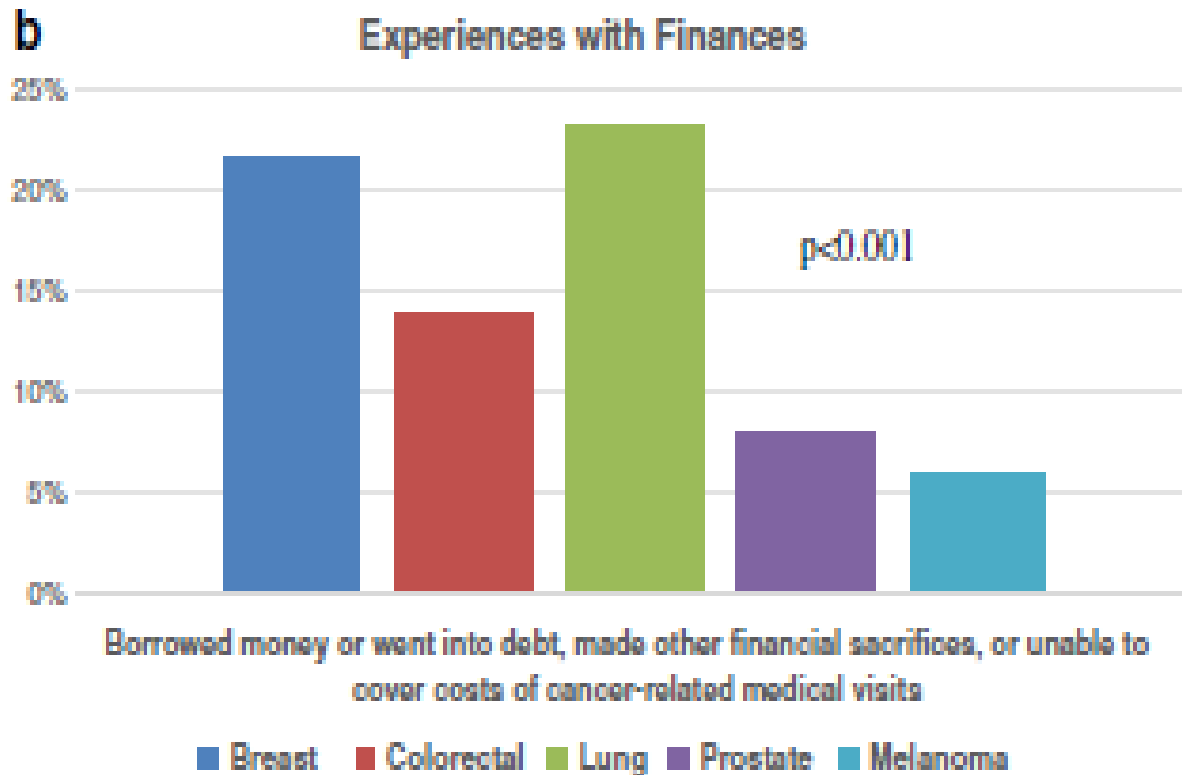
Source: Yabroff KR, Dowling EC, Guy Jr GP, Banegas M, Davidoff A, Han X, Virgo KS, McNeel T, Chawla N, Blanch-Hartigan D, Kent EE, Li C, Rodriguez J, de Moor JS, Zheng Z, Jemal A, Ekwueme DU. Financial hardship associated with cancer in the United States: findings from a population-based sample of adult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

# Psychological Financial Hardship varies by Age Group and Type of Health Insurance



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.

# Material Financial Hardship in Adult Survivors: 2013 *Experiences with Cancer Survey* of Three Health Plans



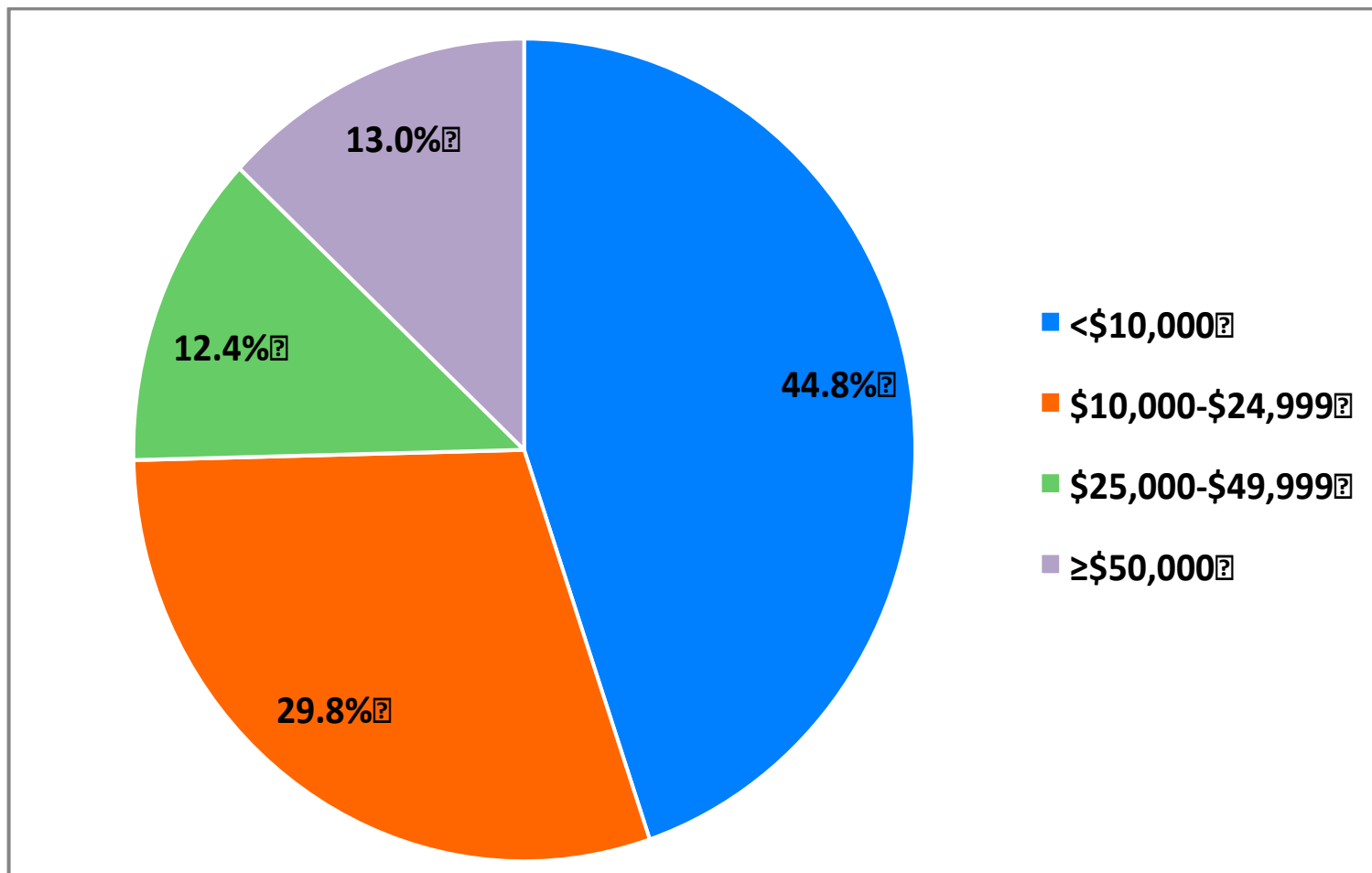
Source: Nekhlyudov L, Walker R, Ziebell R, Rabin B, Nutt S, Chubak J. Cancer survivors' experiences with insurance, finances, and employment: results from a multisite study. *J Cancer Surviv* 2016; 10:1104-1111.

# Financial Hardship in Cancer Survivors Ages 18-64: 2012 LIVESTRONG *Experiences with Cancer Survey*

|                               | Full sample (%) | Among those with Debt (%) |
|-------------------------------|-----------------|---------------------------|
| <b>Material hardship</b>      |                 |                           |
| Borrow money or go into debt  | 33.6            | -                         |
| Filed for bankruptcy          | 3.1             | 9.1                       |
| Other sacrifices              | 39.7            | 68.0                      |
| <b>Psychological hardship</b> |                 |                           |
| Worried about medical bills   | 63.8            | 86.6                      |

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.

# Amount of Debt Incurred Among Cancer Survivors with Debt

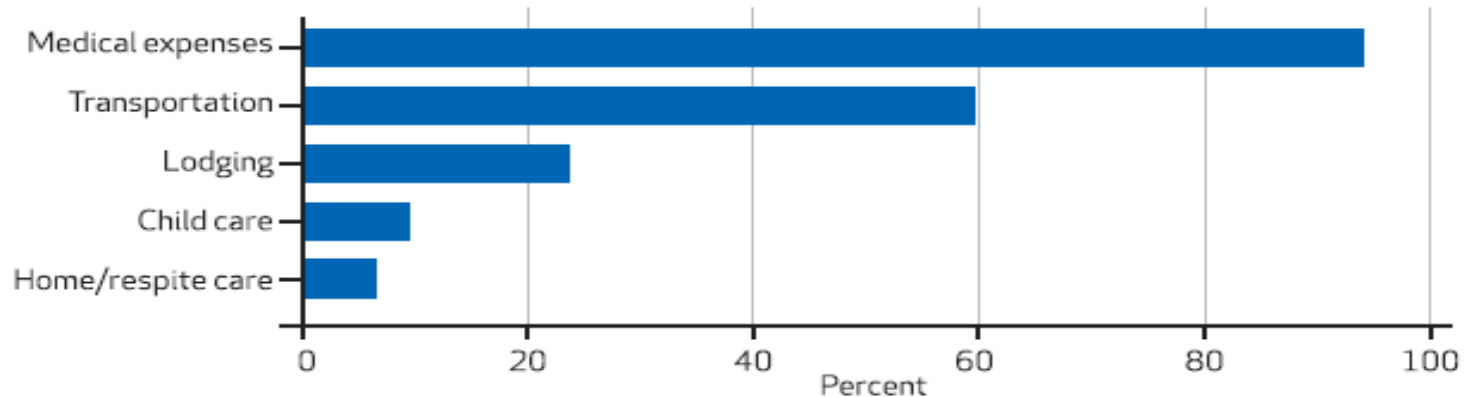


Source: Banegas M, Guy Jr GP, de Moor JS, Ekwueme DU, Virgo KS, Kent EE, Nutt S, Rechis R, Zheng Z, Yabroff KR. For working-age cancer survivors, medical debt and bankruptcy create financial hardships. *Health Aff* 2016 35(1):54-61.

# Out-of-Pocket Spending among Cancer Survivors who Reported Borrowing Money or Debt

## EXHIBIT 3

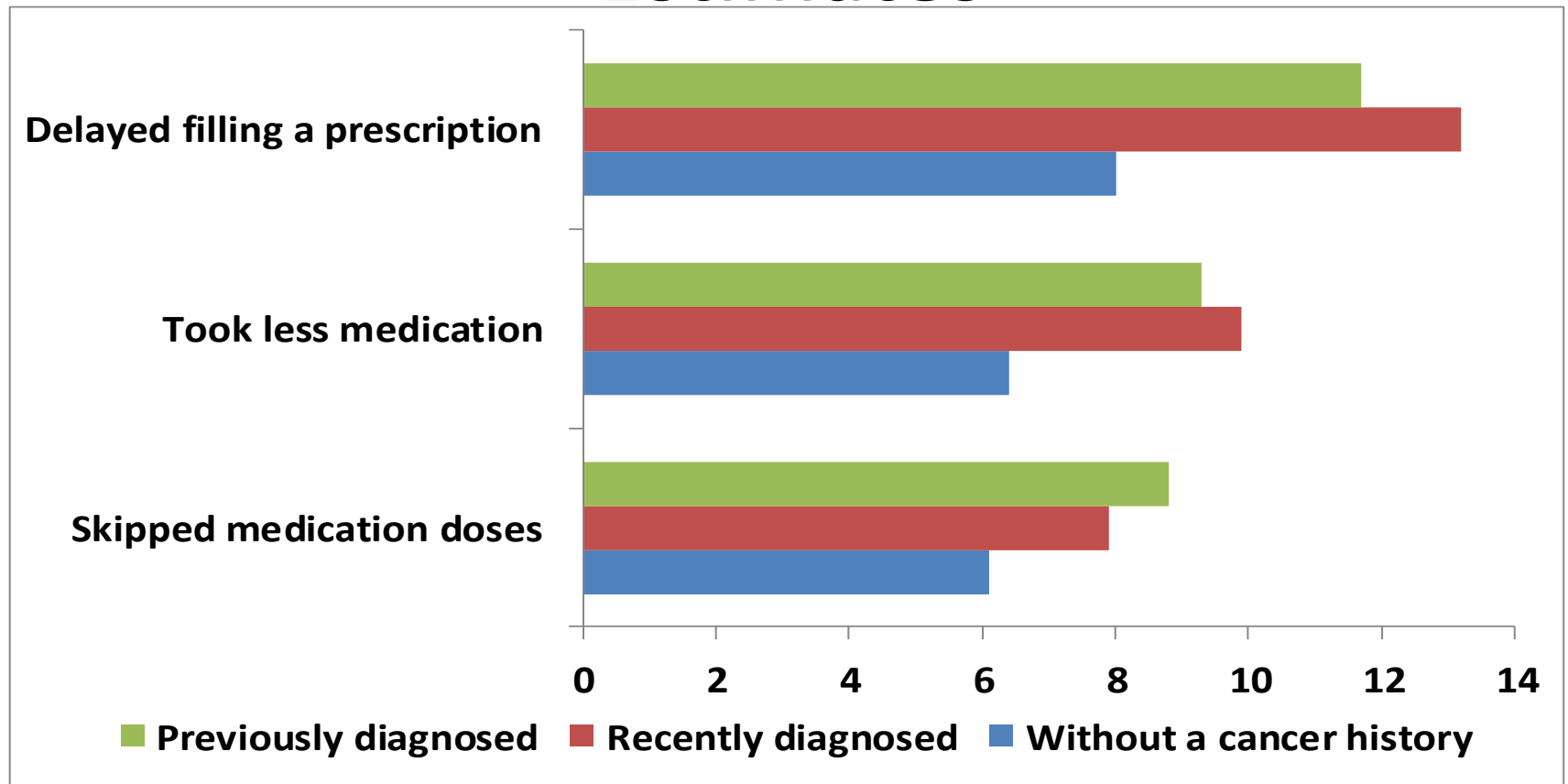
**Types Of Out-Of-Pocket Spending Among Working-Age Cancer Survivors Who Reported Borrowing Money Or Going Into Debt Because Of Cancer, 2012**



**SOURCE** Authors' analysis of data from the LIVESTRONG 2012 survey. **NOTES** The percentages presented are those of the 1,583 participants who responded yes to the question, "Have you or has anyone in your family had to borrow money or go into debt because of your cancer, its treatment, or the lasting effects of that treatment?" and who had valid responses to the question, "Because of your cancer, its treatment, or the lasting effects of that treatment, did you have any out-of-pocket costs in the following categories?" Categories are not mutually exclusive. "Medical expenses" include physician copayments, medications, and durable medical equipment.

Source: Banegas M, Guy Jr GP, de Moor JS, Ekwueme DU, Virgo KS, Kent EE, Nutt S, Rechis R, Zheng Z, Yabroff KR. For working-age cancer survivors, medical debt and bankruptcy create financial hardships. *Health Aff* 2016 35(1):54-61.

# Cancer History and Behavioral Financial Hardship Ages 18-64: 2011-2014 NHIS Estimates



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.



# Summary

- Different aspects of financial hardship: material, psychological, behavioral
- Financial hardship relatively common, even many years following cancer diagnosis and treatment
- Out-of-pocket spending for more than medical care
- Risk factors for financial hardship
  - Younger age
  - Uninsured
  - More recent diagnosis
  - Cancer site

# Patient Characteristics Associated with Risk of Financial Hardship

- Younger age
- Female
- Minority race and/or ethnicity
- More recent diagnosis and/or treatment
- Lower household income and other measures of socioeconomic status
- Unemployed/Changed employment because of cancer

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.

# Comment

- Increasing research to develop evidence base informing interventions to reduce hardship
  - Measure development
  - Primary data collection
  - National surveys - 2016/2017 MEPS  
*Experiences with Cancer*
- NCI Physician Data Query (PDQ) financial toxicity summary of evidence
- ASCO value in cancer care initiative
- Coordination resources increasingly available
  - Financial navigators
  - Special programs (e.g., Cancer Care Equity Program)



**Thank you!**