



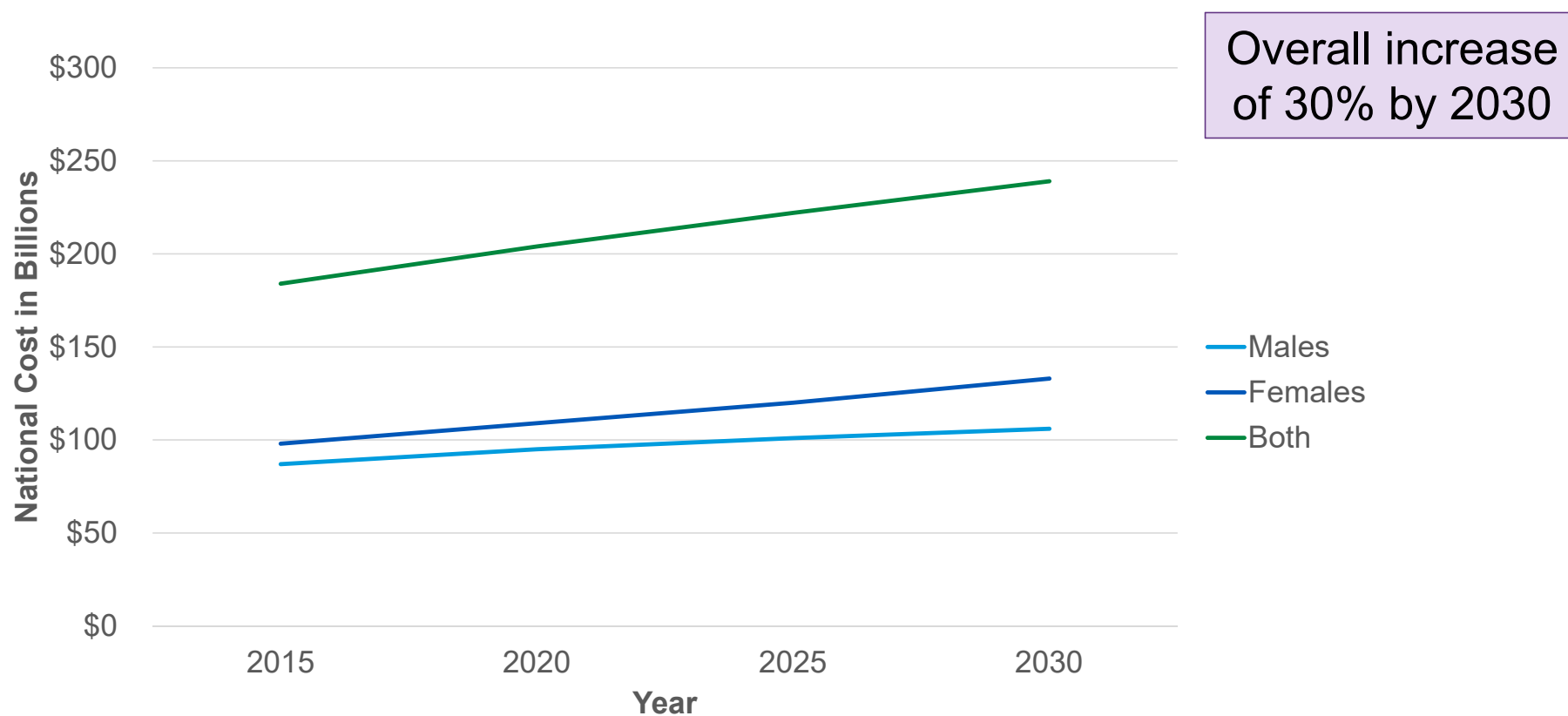
# Breaking the Bank: Financial Toxicity in Oncology

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August 4<sup>th</sup>, 2020

# Medical Costs Associated with Cancer Survivorship

## Medicare Patients 2015 to 2030



Mariotto AB, et al. Cancer Epidemiol Biomarkers Prev. July 2020; 29:1304-12.

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## **Question #1:**

What comes to mind when you hear “financial toxicity”?

# LEARNING OBJECTIVES



Review the definition, background, and measurement of financial toxicity



Discuss the impact of financial toxicity on patients' clinical outcomes

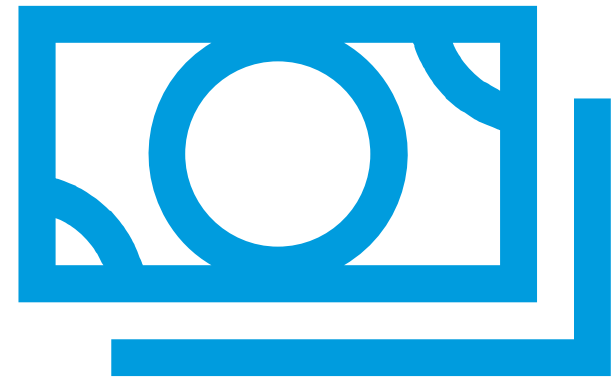


Identify methods to help patients make informed decisions about their oncology care

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## Definition

Term used to describe problems a patient has related to the cost of medical care that may lead to debt, distress, and bankruptcy



Zafar SY, Abernathy AP. Oncology. 2013; 27(2):80-81, 149.  
Zafar SY, Abernathy AP. Oncology. 2013; 27(4): 253-254, 256.

# Background

## High out-of-pocket costs

- 28% of cancer survivors reported high OOP costs vs. 16% of those without a cancer history

## Productivity loss

- 22.3 more missed workdays per year than those without cancer
- 9% decrease in employment within 3 years of diagnosis

## Asset depletion/medical debt

- 33-80% of cancer survivors used savings to finance care
- 2-34% borrowed money or have debt related to medical expenses

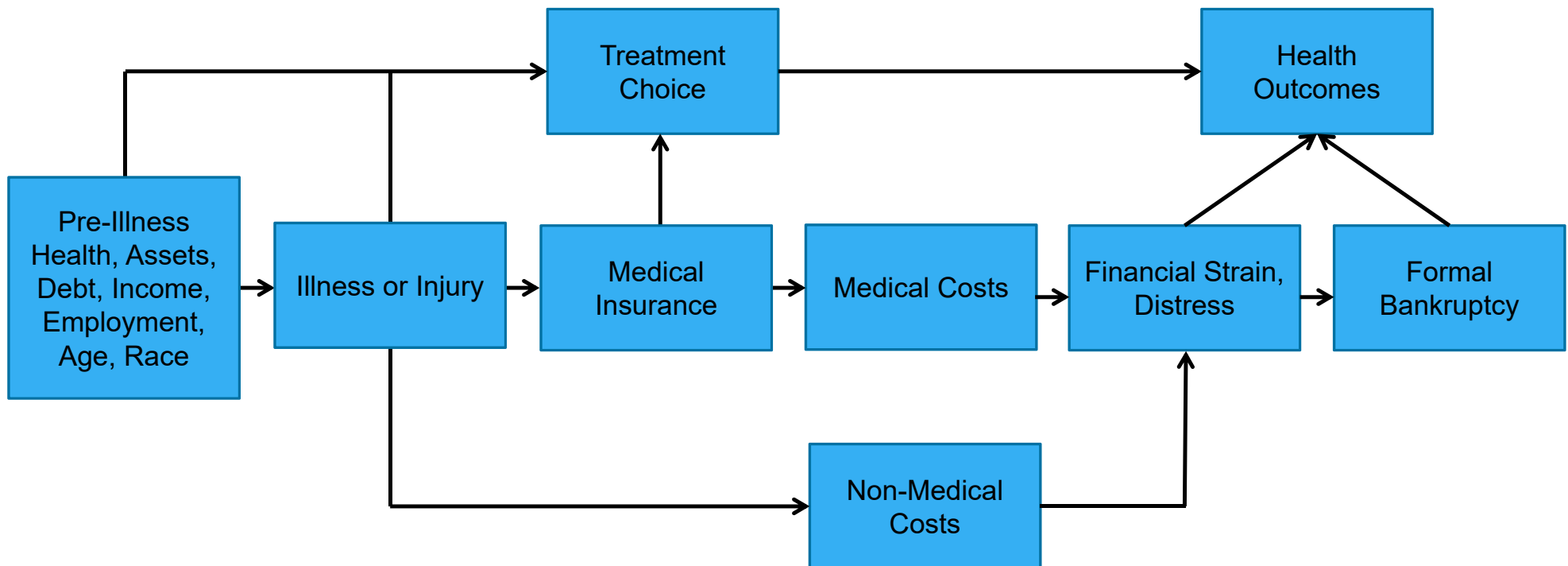
## Financial distress/worry

- 22.5-64% of cancer survivors report stress related to paying medical bills

OOP: out-of-pocket

Financial Toxicity and Cancer Treatment. National Cancer Institute. 2019.  
Davidoff AJ, et al. Cancer. 2013;119(6):1257-1265.

# Etiology and Risk Factors



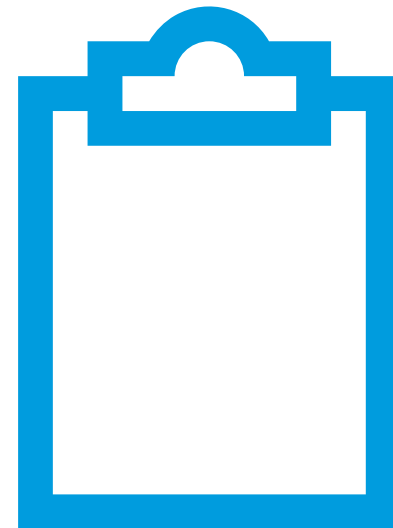
Financial Toxicity and Cancer Treatment. National Cancer Institute. 2019.

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# Measurement

## Comprehensive Score for financial Toxicity (COST)

- Patient reported outcome measure
- 11-item questionnaire
  - I am satisfied with my current work situation
  - I am able to meet my monthly expenses
  - I feel financially stressed
- Scored on Likert scale (0=Not at all, 4=Very much)
  - Several questions are reverse scored
- Lower COST values indicated higher sense of financial toxicity
- Validated in United States patients



de Souza JA, et al. Cancer. 2017; 123(3):476-484.

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## Question #2:

Financial toxicity...

- A. Is only measured using COST score
- B. Has shown less impact in cancer patients
- C. Has many risk factors**
- D. Causes worse patient outcomes

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# Impacts of Financial Toxicity

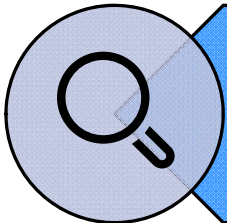
- Symptom Burden
- Survival
- Quality of Life
- Decreased access to treatment
- Poor adherence
- Care satisfaction/perceived quality of care
- Financial debt/bankruptcy
- Caregiver impacts



Financial Toxicity and Cancer Treatment. National Cancer Institute. 2019.

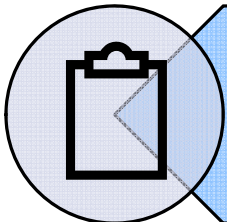
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## Chan RJ, et al



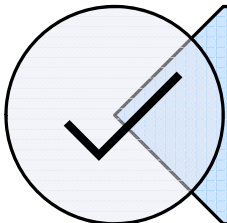
### Objective

- Explore the relationship between FT and symptom burden



### Methods

- Systematic review – MEDLINE, EMBASE, CINAHL
- Studies from Jan 2000 to Jan 2018



### Outcomes

- Physical, psychological, spiritual, overall symptom burden

FT: financial toxicity

Chan RJ, et al. J Pain Symptom Manag. 2019; 57:646-660.



# Chan RJ, et al

## Results

### Included Articles:

- 5,773 records were screened for inclusion
  - 24 full-text articles retrieved
  - 9 articles were included in qualitative synthesis (n = 11,544 cancer survivors)

### Study Characteristics:

- 6 in United States, others in Australia, France and Ireland
- All used quantitative observational analysis
- 8 examined relationship between FT and psychological symptoms
- 3 examined relationship between FT and physical symptoms

FT: financial toxicity

Chan RJ, et al. J Pain Symptom Manag. 2019; 57:646-660.

# Chan RJ, et al

## Results

	Physical	Psychological and Spiritual						Overall Symptom Burden
		Depression	Anxiety	Stress	Fear of Recurrence	Spiritual Suffering	Overall	
Sharp et al. 2013		+/- (moderate)	+/- (moderate)	+/- (moderate)				
De Souza et al. 2017							+ (weak)	
Hall et al. 2016		+ (weak)	+/- (weak)	+ (weak)			+ (weak)	
Kale et al. 2016		+ (weak)			+ (moderate)			
Delgado-Guay et al. 2015	N	+ (weak)	+ (weak)			N		
Barbarete et al. 2017	Measured but not reported	+	+			+	+	+
Meeker et al. 2016							+	
Lathan et al. 2016	+ (weak)							+ (weak)
Fenn et al. 2014					+			

+: positive correlation  
 -: negative correlation  
 N: no correlation

Chan RJ, et al. J Pain Symptom Manag. 2019; 57:646-660.



# Chan RJ, et al

## Conclusions

- 8 of 9 studies evaluated psychological symptoms
  - 6 of 8 reported positive correlation with FT
- 3 of 9 studies evaluated physical symptoms
  - 2 of 3 reported inconsistent results
- **Limited evaluation due to significant heterogeneity**
- Future research is needed to further elucidate these relationships
  - Longitudinal data collection
  - Mixed-methods approaches
  - Homogenous sample population

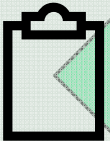
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# Ramsey SD, et al



## Objective

- Determine relationship between severe financial distress (bankruptcy) with health outcomes



## Methods

- Patients  $\geq 21$  years of age with all cancers except nonmelanoma skin cancer diagnosed between Jan 1, 1995 and Dec 31, 2009
- Utilized Western Washington SEER Cancer Registry and federal bankruptcy records



## Outcomes

- Cumulative risk of filing bankruptcy after diagnosis
- Mortality risk for patients filing for bankruptcy and those patients who did not file bankruptcy

Ramsey SD, et al. J Clin Oncol. 2016; 34(9):980-986.

# Ramsey SD, et al

## Results

### Overall Population

- 231,596 patients diagnosed with cancer
- 4,728 of these patients filed for bankruptcy
- Those who filed for bankruptcy were more likely:
  - Younger
  - Female
  - Nonwhite
  - Local or regional state disease at diagnosis
  - Received treatment

### Propensity Scored Population

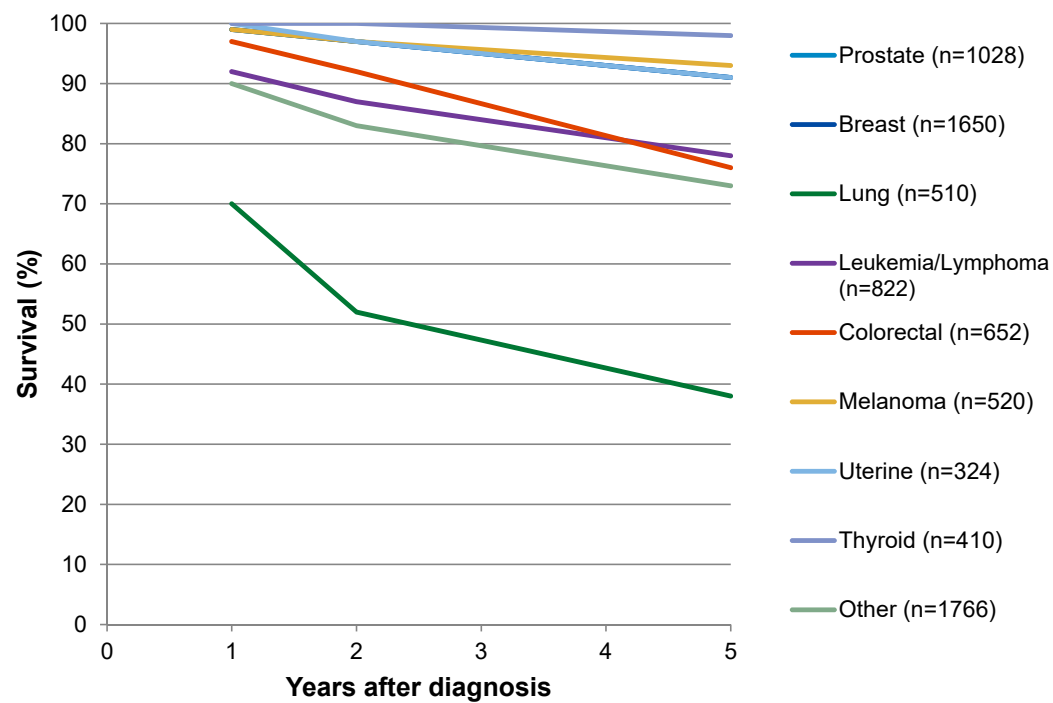
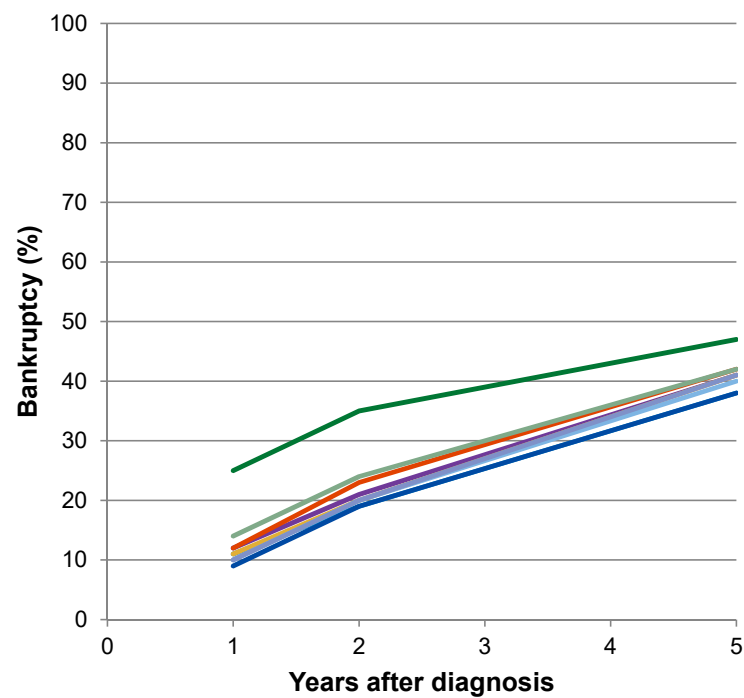
- 7,682 in propensity scored analysis
  - 3,841 in each group
- Average patient:
  - 53 years old (SD 14.7 years)
  - Men 54% vs. women 46%
  - White 86%
  - Married 60%
  - Urban 91%
  - Stage:
    - Local 59%
    - Regional 25%
    - Distant 14%

Ramsey SD, et al. J Clin Oncol. 2016; 34(9):980-986.

# Ramsey SD, et al

## Results

### Propensity Score Matched Sample



Ramsey SD, et al. J Clin Oncol. 2016; 34(9):980-986.



# Ramsey SD, et al

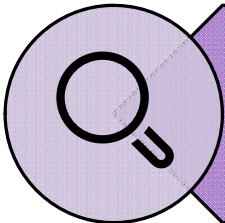
## Conclusions

- There is a consistent, positive association between filing for bankruptcy and earlier mortality after cancer diagnosis
- Need additional studies to determine causal factors that link bankruptcy with excess mortality in oncology patients
  - Less likely to complete/access follow-up treatment
  - Advanced-stage patients filed to protect families
  - Primary motivator of filing bankruptcy
  - Financial and insurance status
  - Employment status

Ramsey SD, et al. J Clin Oncol. 2016; 34(9):980-986.

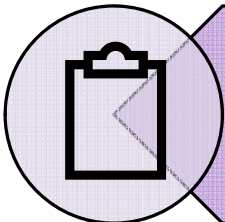
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# Fenn KM, et al



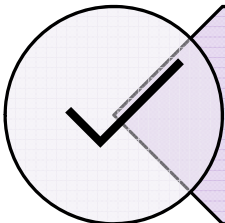
## Objective

- Determine association between financial problems caused by cancer and reported quality of life



## Methods

- Data from 2010 National Health Interview Survey (NHIS) were analyzed
- Multivariate regression model used for analysis



## Outcomes

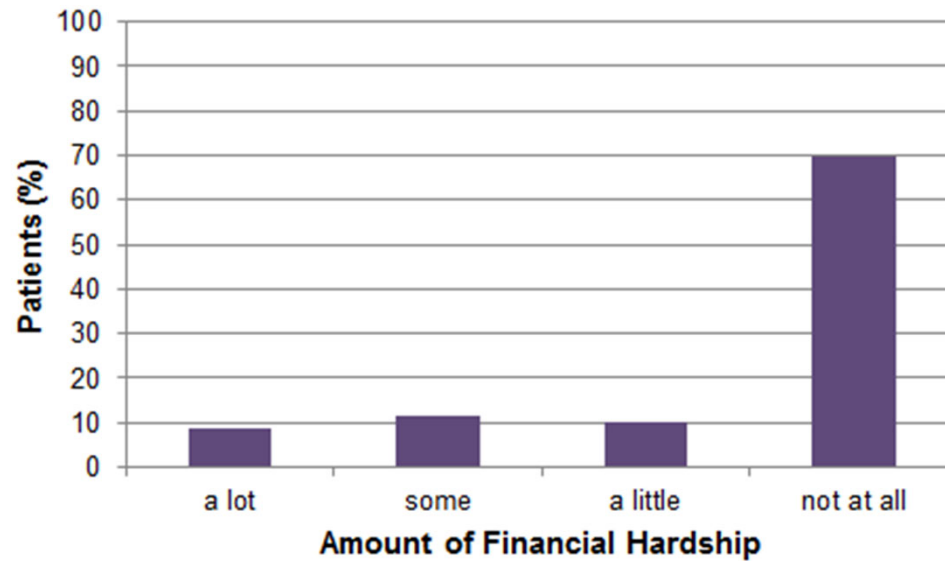
- Relationship between financial problems and quality of life

Fenn KM, et al. J Oncol Pract. 2014; 10(5): 332-339.

# Fenn KM, et al

## Results

- 2010 administration of NHIS had a 60.8% adult response rate
- 2,151 adult cancer survivors were surveyed
  - 98% answered financial hardship question



NHIS: National Health Interview Study

Fenn KM, et al. J Oncol Pract. 2014; 10(5): 332-339.



# Fenn KM, et al

## Results

- For patients who reported "a lot" of financial burden were more likely:
  - Female ( $p=0.016$ )
  - Less than 61 years old ( $p<0.001$ )
  - Non-white ( $p<0.001$ )
  - Less than 4-year college education ( $p=0.002$ )
  - Total combined income less than \$35,000 ( $p<0.001$ )
  - Cancer types ( $p<0.001$ ):
    - Thyroid (30.6%)
    - Ovarian (25.3%)
    - Lung (23.7%)



# Fenn KM, et al

## Results

### Bivariate Analysis

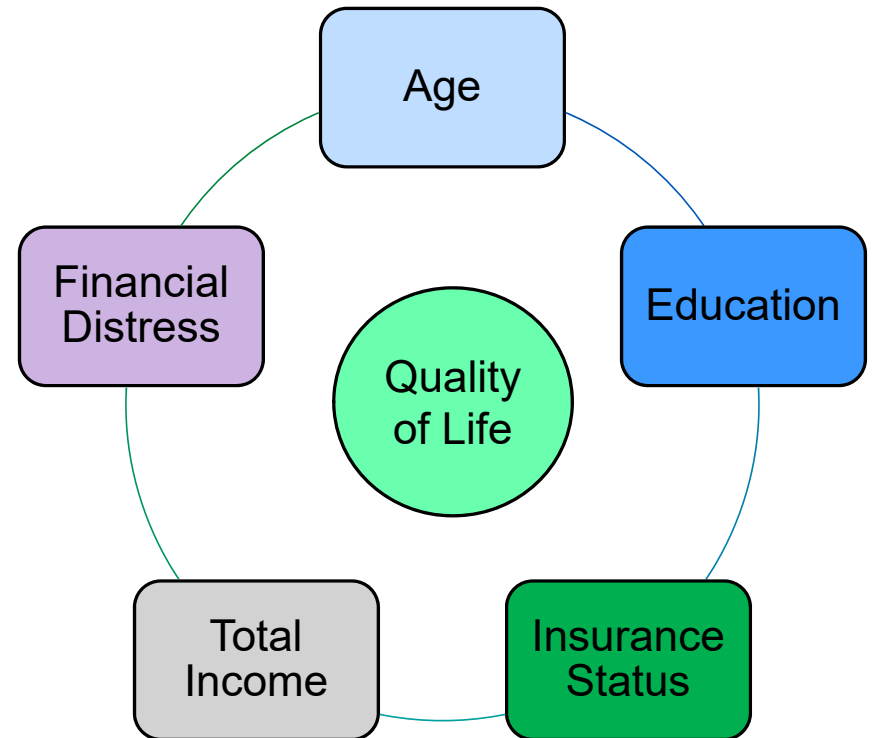
- Examined association between degree of cancer-related financial problems and quality of life measures
- Patients who reported “a lot” of cancer-related financial problems were more likely to:
  - Report “poor” quality of life ( $p < 0.001$ )
  - Believe the chances of their cancer returning to be high ( $p < 0.001$ )
  - Report higher frequency of worry about their cancer returning ( $p < 0.001$ )

# Fenn KM, et al

## Results

### Multivariate Analysis

- Self-reported QOL was inversely correlated with degree that cancer caused financial problems
- Patients reporting "a lot" of financial problems were 4 times less likely to report QOL as "good" or better
  - OR=0.24; 95% CI, 0.14 to 0.40;  $p<0.001$
- Age, education, insurance status, total combined family income were significant independent risk factors for QOL



QOL: quality of life

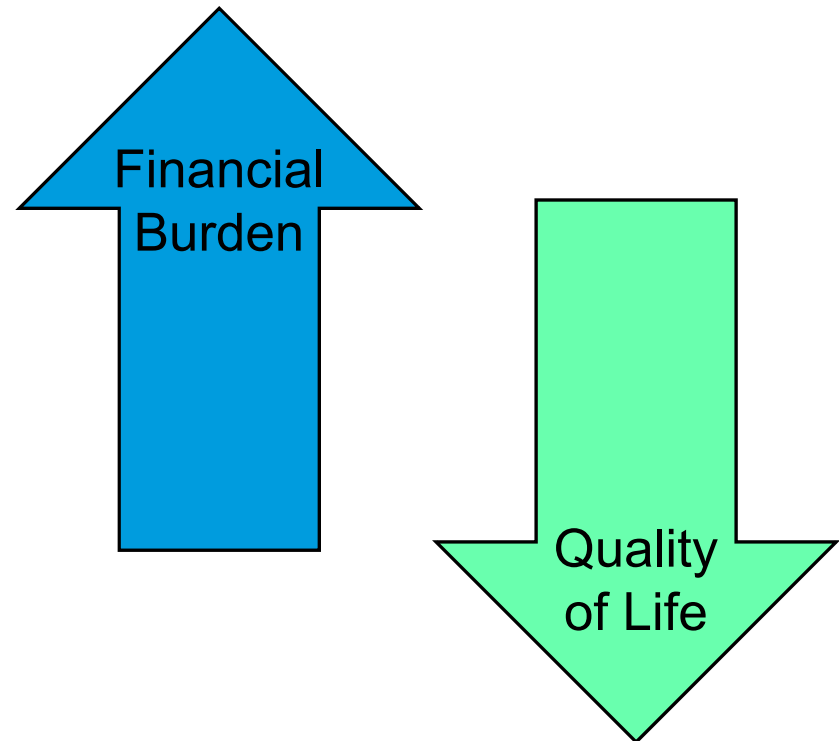
Fenn KM, et al. J Oncol Pract. 2014; 10(5): 332-339.

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# Fenn KM, et al

## Conclusions

- Financial burden is common among cancer patients
- Greater financial burden is associated with decreased quality of life
- Degree of cancer-related financial problems was the strongest independent predictor of QOL in cancer survivors



QOL: quality of life

Fenn KM, et al. J Oncol Pract. 2014; 10(5): 332-339.

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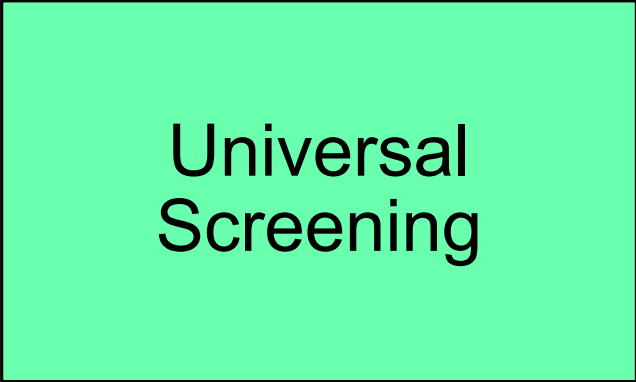
## Question #3:

Financial toxicity in cancer is NOT associated with which of the following outcomes?

- A. Early mortality
- B. Decreased quality of life
- C. Increased adherence to therapy**
- D. Bankruptcy

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# Strategies



Universal  
Screening

Carrera PM, Kantarjian HM, and Blinder VS. CA Cancer J Clin. 2018. 68(2):153-165.  
Liang MI and Huh WK. Gynecol Oncol. 2018; 150(1):3-6.

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## Strategies

Universal  
Screening

Early triage to  
available financial  
resources

Carrera PM, Kantarjian HM, and Blinder VS. CA Cancer J Clin. 2018. 68(2):153-165.  
Liang MI and Huh WK. Gynecol Oncol. 2018; 150(1):3-6.

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## Strategies

Universal  
Screening

Early triage to  
available financial  
resources

Financial  
Counseling

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## Strategies

Universal  
Screening

Early triage to  
available financial  
resources

Financial  
Counseling

Value Based Care

Carrera PM, Kantarjian HM, and Blinder VS. CA Cancer J Clin. 2018. 68(2):153-165.  
Liang MI and Huh WK. Gynecol Oncol. 2018; 150(1):3-6.

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## Value Based Care

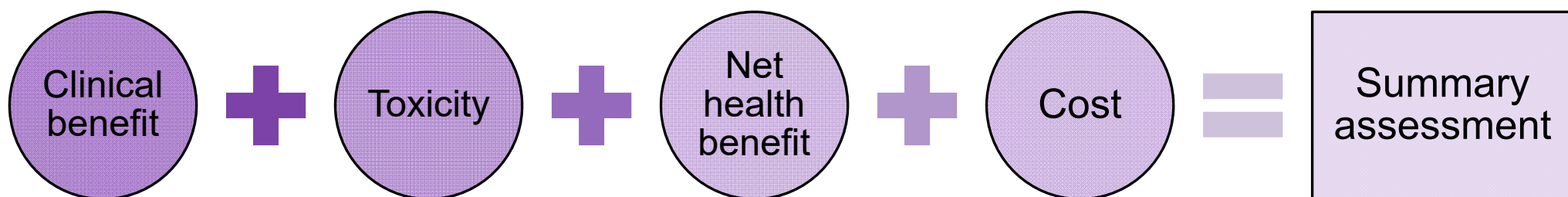
- Health care delivery model under which providers are paid based on health outcomes of their patients and quality of services rendered

### **Goals:**

1. Better individual care
2. Better health for populations
3. Lower cost

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# ASCO Value Framework



Schnipper EL, et al. J Clin Oncol. 2016; 34(24): 2925-2934.

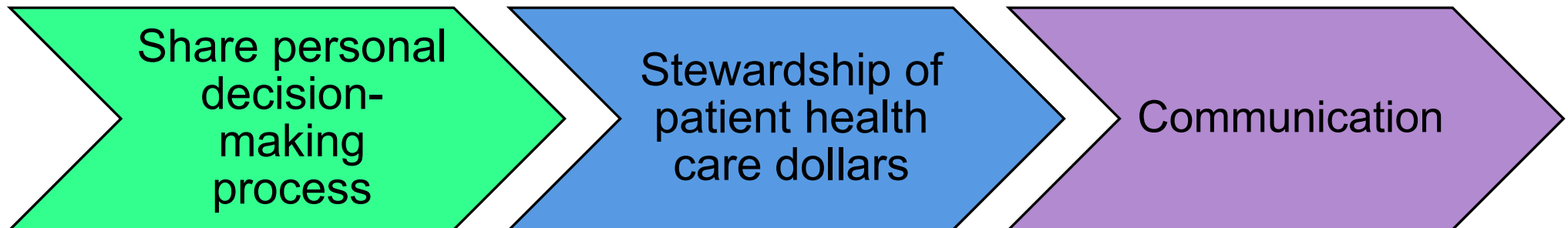
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## **Question #4:**

What kind of intervention would you want as a patient who is making decisions regarding health care?

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## Steps to Take



Johnstone GP and Johnstone PAS. Int J Radiation Oncol Biol Phys. 2018; 101(2);306-308.

# SUMMARY



Financial toxicity is used to describe problems a patient has related to the cost of medical care



Financial toxicity can impact a wide range of patient outcomes



Help patients make informed decisions by talking with them about cost of various cancer treatments

# QUESTIONS & ANSWERS

