

The Costs of Breast Cancer Surgery

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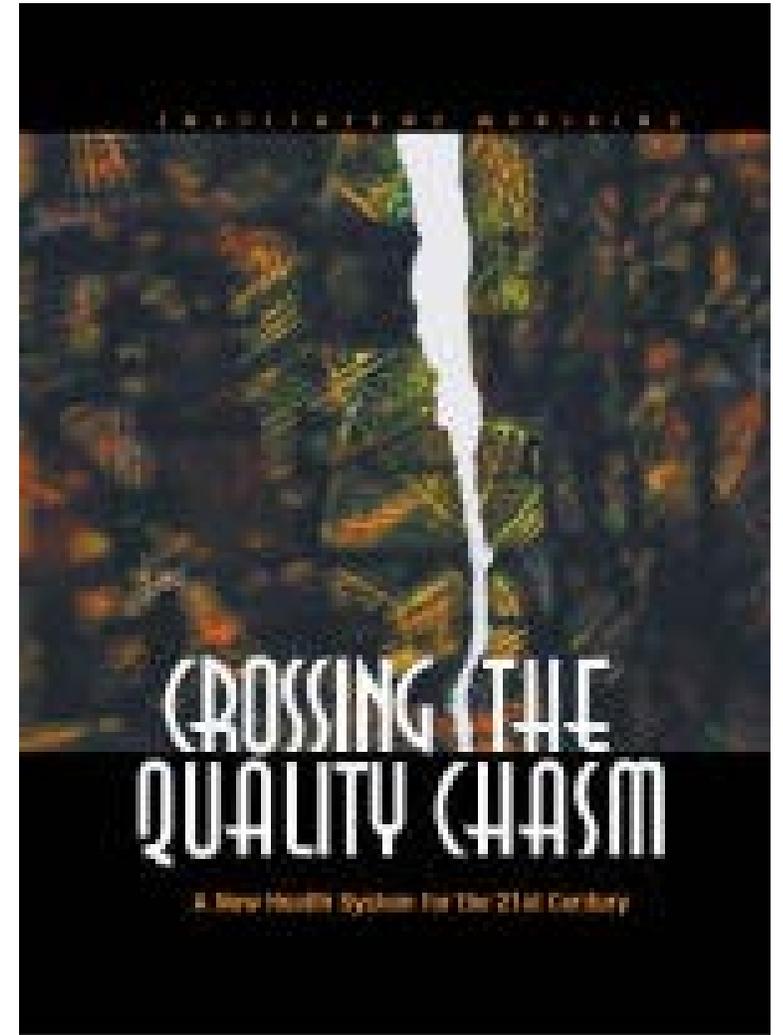


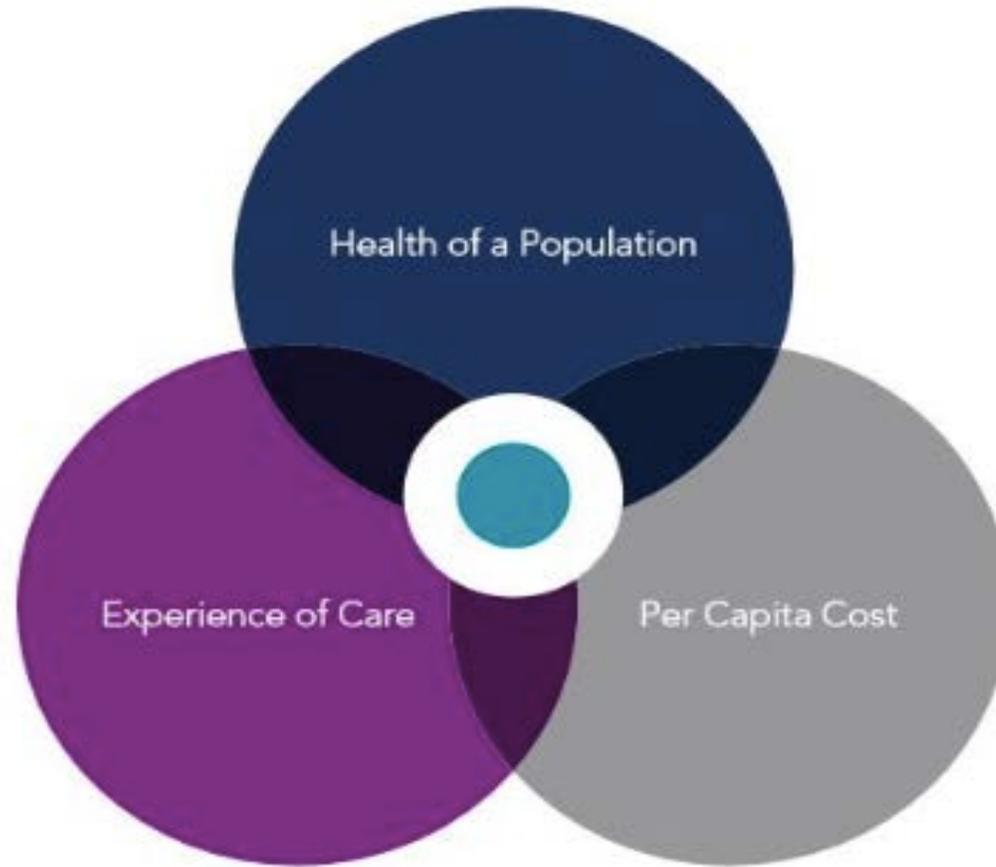


How do we balance high quality, patient-centered care for individuals with the health of the population as a whole?

QUALITY HEALTHCARE

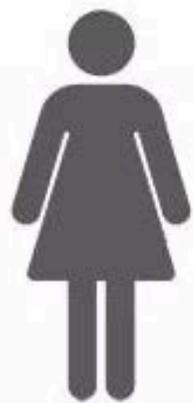
- **Safe:** avoiding injuries to patients from the care that is intended to help them.
- **Effective:** providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit.
- **Timely:** reducing waits and sometimes harmful delays for both those who receive and those who give care.
- **Efficient:** avoiding waste, including waste of equipment, supplies, ideas, and energy.
- **Equitable:** providing care that does not vary in quality because of personal characteristics.
- **Patient-centered:** providing care that is respectful of and responsive to individual patient preferences, needs and values, and that patient values guide all clinical decisions.





THE TRIPLE AIM

VALUE = QUALITY/COST
“health outcomes achieved per dollar spent”



BREAST CANCER CARE

- Incorporate evidence into practice
- De-escalation of unnecessary treatment
- Patient-centered cancer care

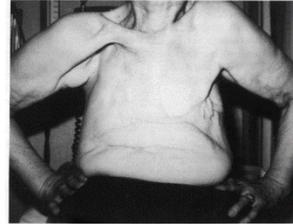
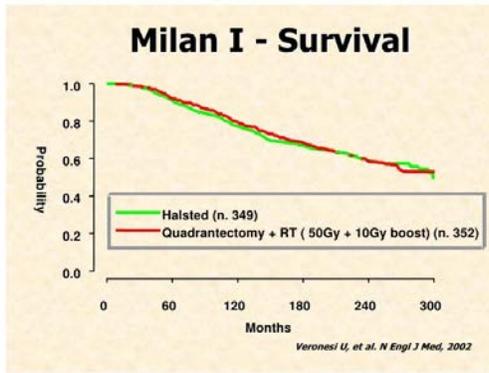
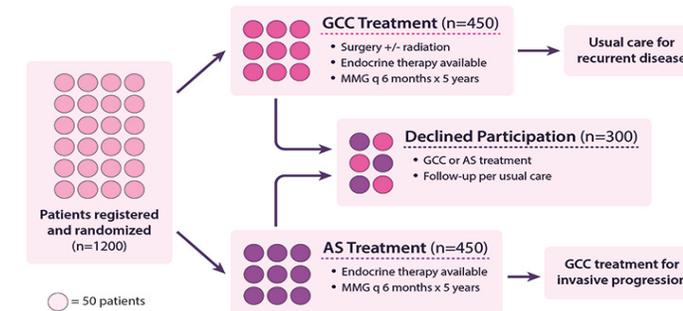
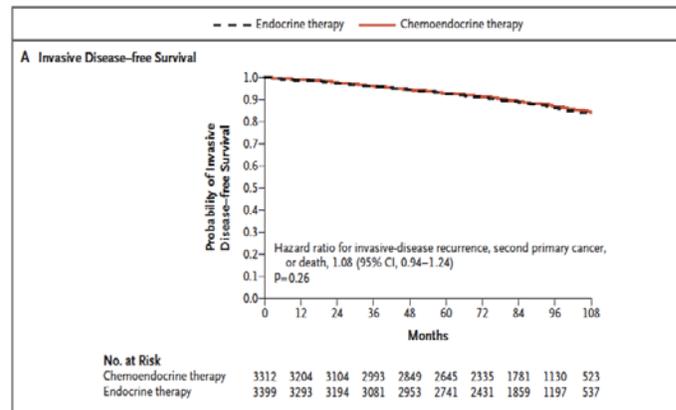
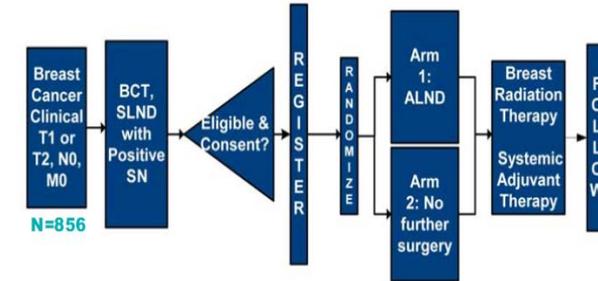
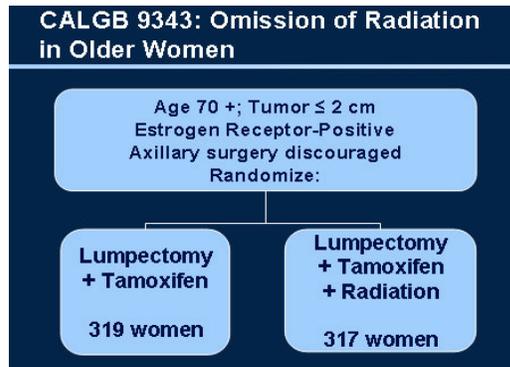


FIGURE 16-12. In the same patient, contraction of the intact pectoralis major muscle can be seen on the left. This photograph demonstrates the difference in the axilla and chest wall defects associated with the two operations.



VALUE IN BREAST CANCER

ACOSOG Z0011

Fewer lymph node dissections → Decreased LOS, Lower costs, Less lymphedema

Society of Surgical Oncology- ASTRO Margin Guidelines

Eliminates 25K unnecessary surgeries each year → \$31 million savings per year

ASTRO Choosing Wisely Guidelines for Abbreviated Radiation Regimens

Shorter radiation for women → \$164 million savings per year

Risk-reducing Mastectomies in Women with BRCA Mutations After Ovarian Cancer

Bilateral mastectomies within 5-years of ovarian cancer not cost-effective

Camp MS, et al. *Ann Surg Onc.* 220:836-41. 2013.
Greenup RA, et al. *Ann Surg Onc.* 21:1512-1514. 2014.
Greenup RA et al. *Journal of Oncology Practice.* 2017.
Gamble C, et al. *Ann Surg Oncol.* 24:3116–3123. 2017.

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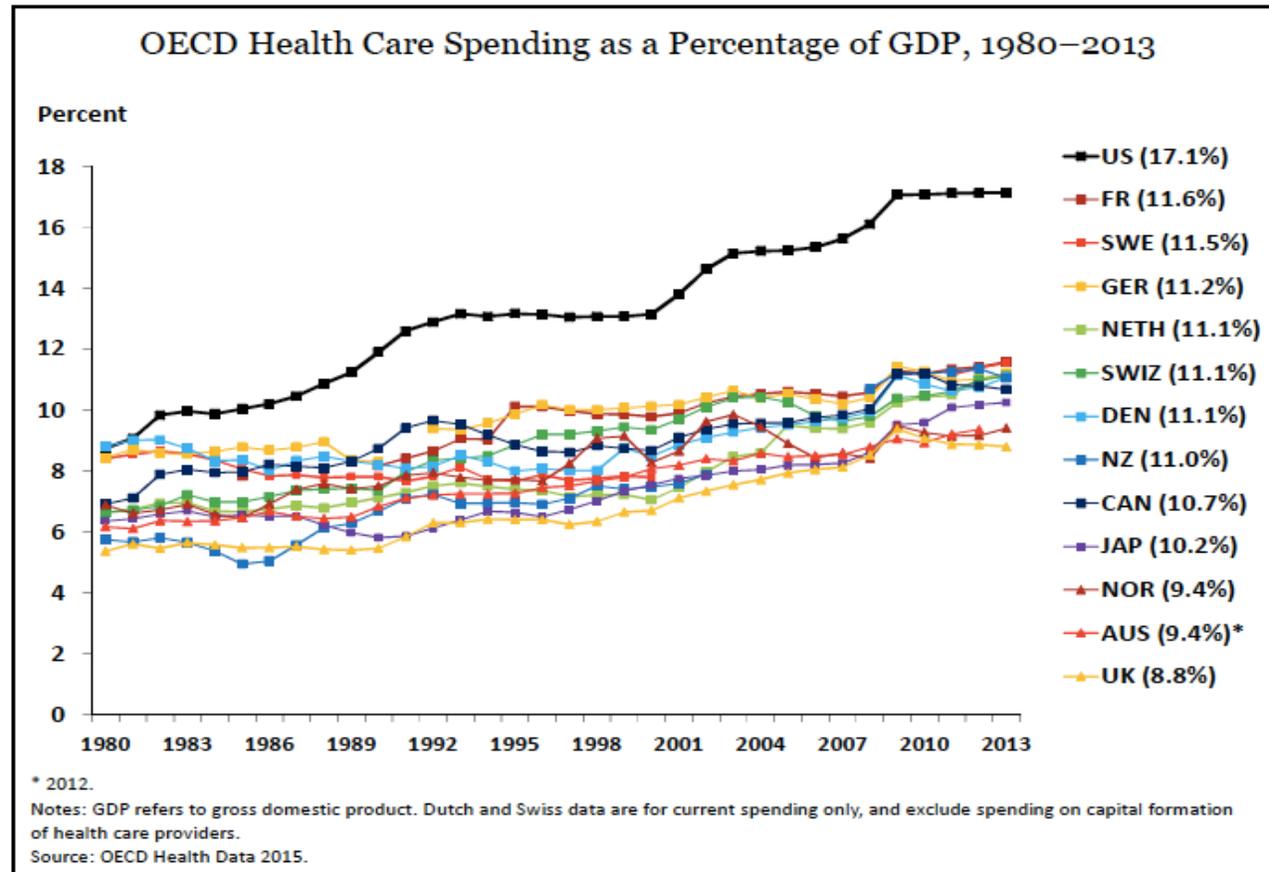
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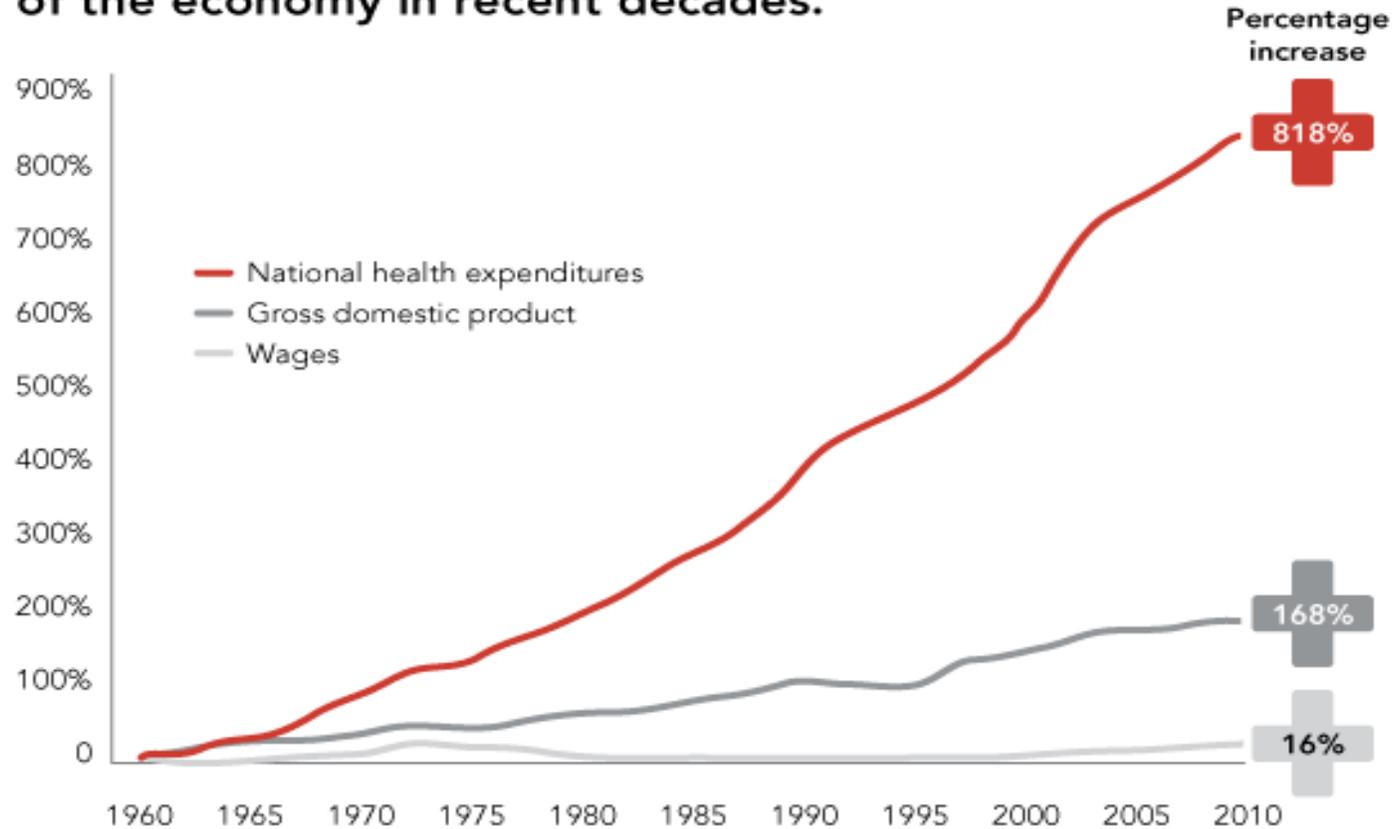
HEALTH CARE COSTS

20% of US GDP by 2020



37% of U.S. families report financial distress related to medical care.

Health care spending has grown much faster than the rest of the economy in recent decades.



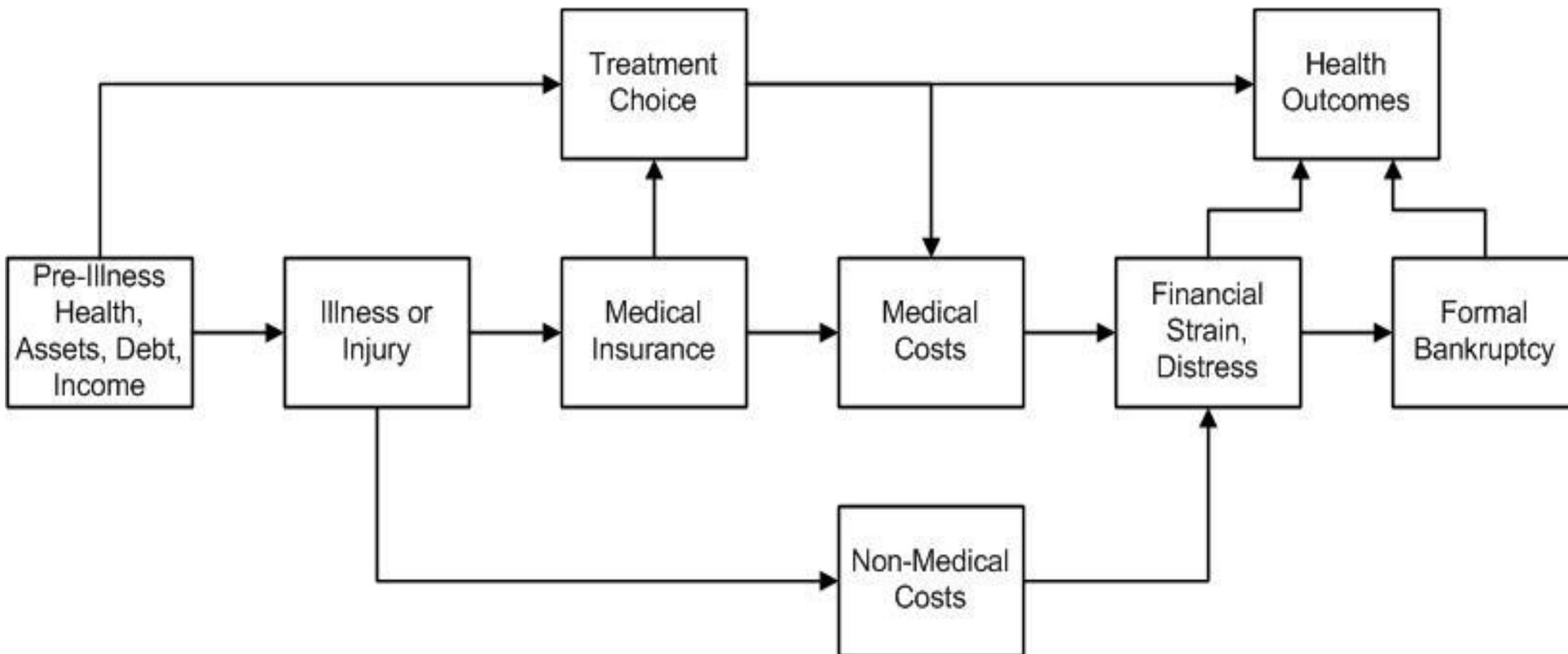
FINANCIAL TOXICITY

THE COSTS OF CANCER



While being diagnosed with cancer alone can put a person under tremendous amounts of mental and emotional stress, the additional burden of the outrageously expensive medical care only adds to the strain. The dramatic rise in the cost of cancer treatments has now given rise to what is being called Financial Toxicity.

CANCER & FINANCIAL HARDSHIP



FINANCIAL TOXICITY

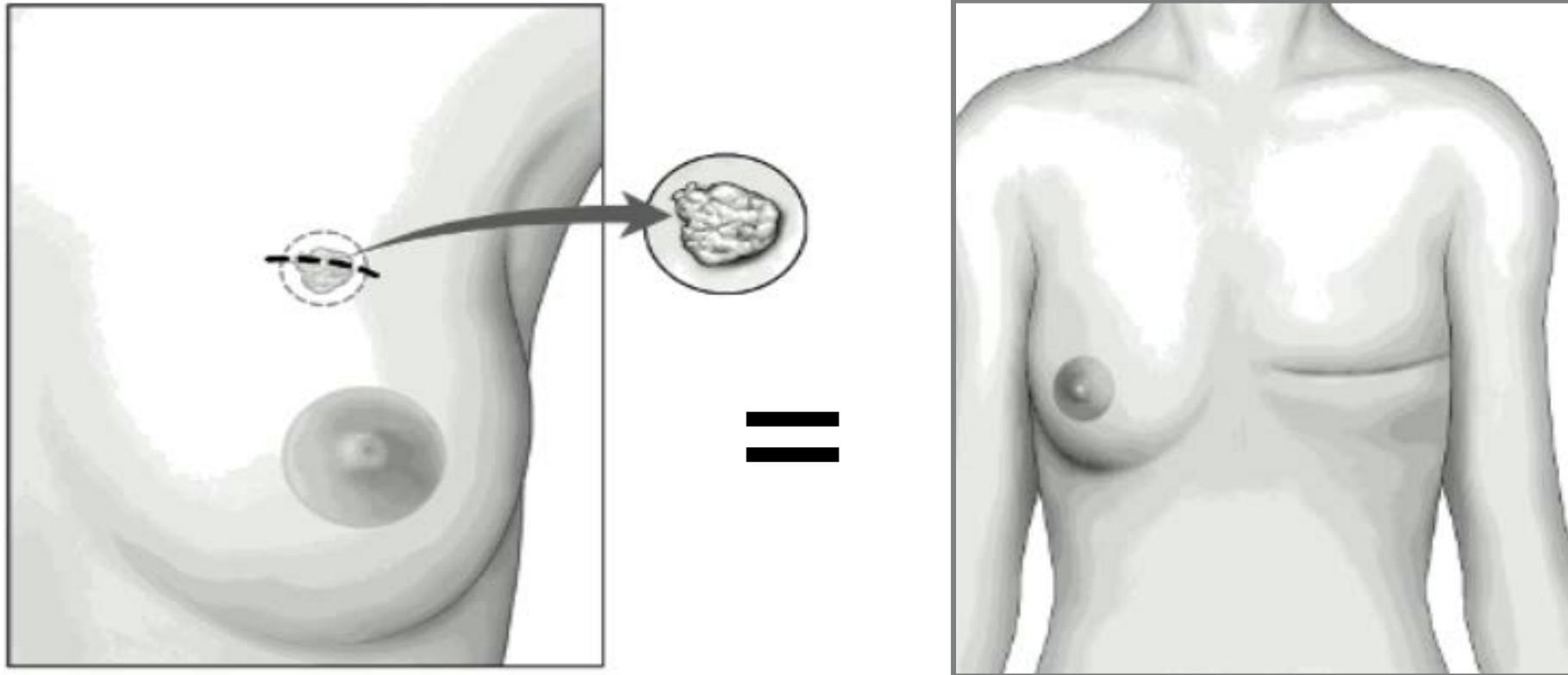
treatment-related financial “hardship” “distress” “burden”

- Poor quality of life
- Treatment non-adherence or refusal
- Employment disruption
- Bankruptcy
- Early mortality
- Racial and ethnic disparities
- Exists despite insurance

Hrishikesh P et al. *Cancer*. 2015.
Samuel C et al. *BCRT*. September 2019.
Bernard DSM et al. *JCO*. 2011; 29:2821-26.
Ramsey SD et al. *Health Affairs*. 2013; 32:1143-1152.
Wheeler SB et al. *JCO*. 36(17): 1695-1701. 2018.
Chino F et al. *JAMA Onc*. 2017. 3(11):1582-1584.



DECISIONS FOR BREAST CANCER SURGERY



Fisher B, et al. *NEJM*. 2002; 347(16):1233-1241.
Veronesi U, et al *NEJM*. 2002. 347(16):1227-1232.
Hwang ES, et al. *Cancer*. 2013.119(7):1402-11.

A close-up photograph of Angelina Jolie smiling warmly. She has long, dark brown hair and is wearing a light-colored top. The background is dark and out of focus, showing other people in a crowd.

The New York Times

"I can tell my children that they don't
need to fear they will lose me to
breast cancer."

Angelina Jolie in "My Medical Choice"
Published on May 14, 2013

CONTRALATERAL PROPHYLACTIC MASTECTOMY

“*double mastectomy*”

- CPM rates have more than tripled from 1998-2012
- No oncologic or survival benefit
- Increased risk of surgical complications
- Surveillance? Improved symmetry? Peace of mind?

Rosenberg SM, et al. *Ann Intern Med.*159:373-381, 2013.
King TA, et al. *JCO.* 29: 2158-2164. 2011.
Hwang ES, et al. *JCO.*34(13) :1518-27. 2016.
Wong SM, et al. *Annals of Surgery.* 265(3):1 2016.

“CPM should be discouraged for an average-risk woman with unilateral breast cancer. However, patients’ **values, goals, and preferences** should be included to optimize shared decision making... The final decision whether or not to proceed with CPM is a result of the balance between benefits and risks...and patient preference.”

**As women face equally effective surgical
treatment options, can
cost transparency & communication
align patient preferences with high value
care?**

FINANCIAL TOXICITY

cost transparency and communication

- Cost conversations are lacking in clinical care
- Result in cost-reducing strategies (44%)
- Transparency allows for:
 - Inclusion in treatment decisions
 - Financial preparedness
 - Physician and provider education

Blumenthal D, McGinnis JM. *JAMA*. 2015. 313(19): 1901-1902.
Meropol NJ et al. *JCO*. 2009; 27: 3868-3874.
Hunter WG et al. *J Onc Practice*. 2017; 13(11).
Greenup RA et al. *ASO*. 2019; 26(10): 3141-3151.

DECISIONS FOR BREAST CANCER SURGERY



- Recovery Time
- Risk of Recurrence
- Peace of Mind
- Side Effects/Complications
- Need for Surveillance
- Appearance
- **COSTS?**

SURVEY DEVELOPMENT



PATIENT ADVOCATE INPUT



PRE-TESTED IN
VOLUNTEERS



INELIGIBLE OR INCOMPLETE
EXCLUDED



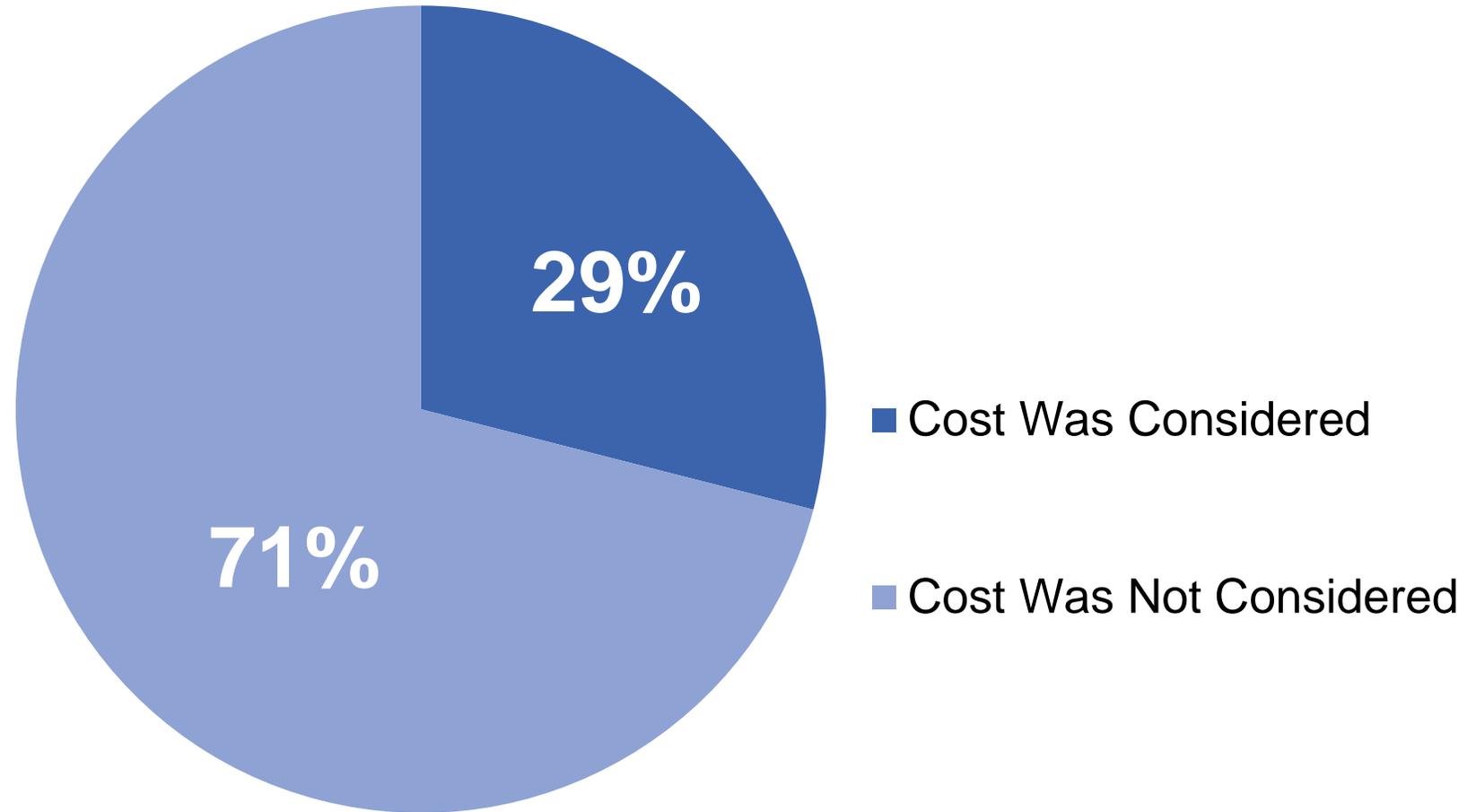
FINAL COHORT
N= 607

PARTICIPANTS

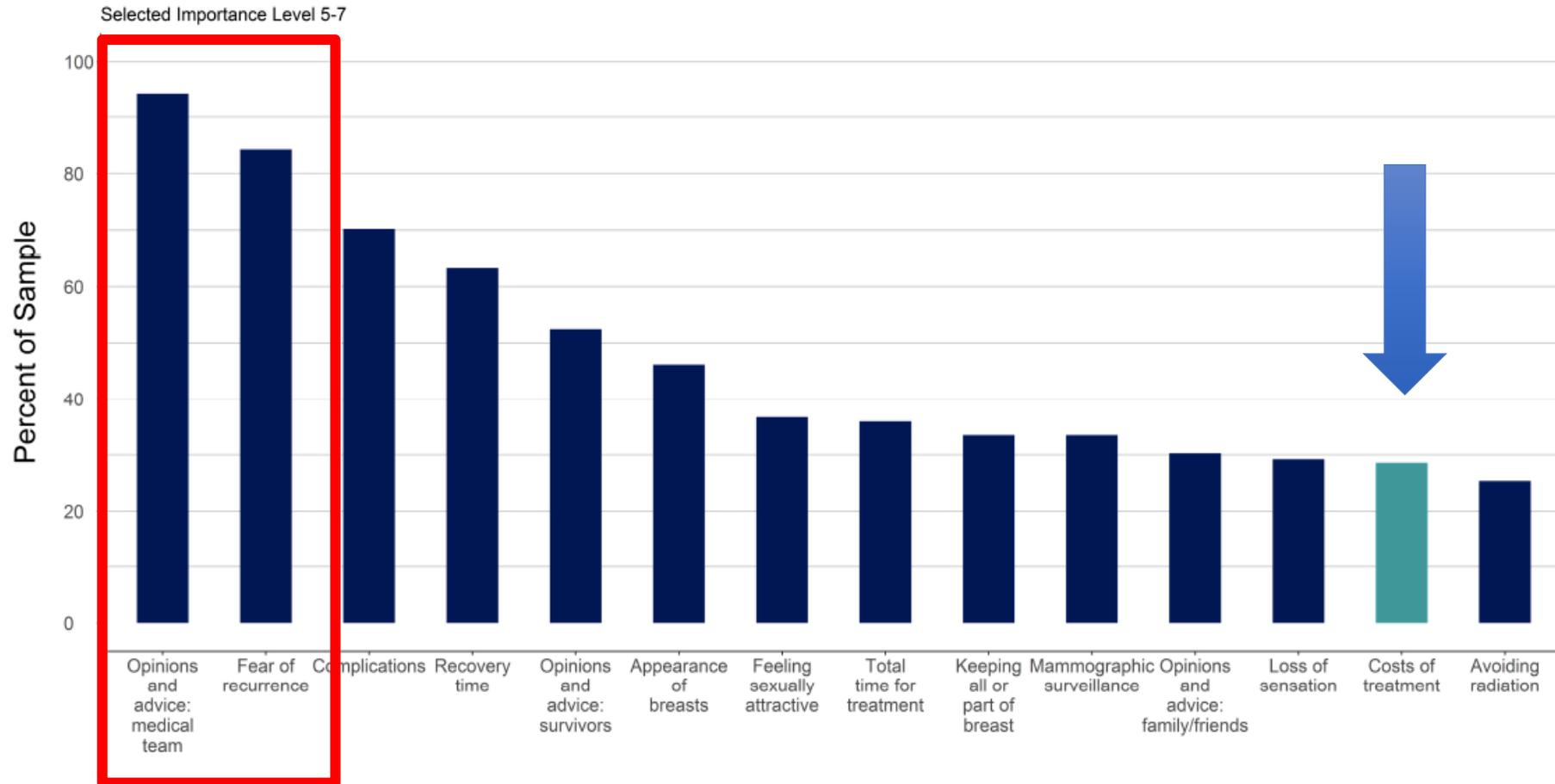
- Mean 58 years old.
- Stage 0-II breast cancer (84%).
- Median 6.8 years from diagnosis (0.1-37 years).
- 69% Private Insurance, 26% Medicare.
- 56% reported annual income \geq \$75,000/yr.

	Not at all					Extremely	
5. Healing and recovery time from surgery	1	2	3	4	5	6	7
6. Possible complications from surgery	1	2	3	4	5	6	7
7. Loss of sensation in your breast or nipple	1	2	3	4	5	6	7
8. Fear of recurrence	1	2	3	4	5	6	7
9. Long term need for follow up with mammograms	1	2	3	4	5	6	7
10. Opinions and advice from your family and friends	1	2	3	4	5	6	7
11. Opinions and advice from breast cancer survivors	1	2	3	4	5	6	7
12. Costs of treatment	1	2	3	4	5	6	7
13. Feeling sexually attractive	1	2	3	4	5	6	7
14. Appearance of your breasts including symmetry	1	2	3	4	5	6	7
15. Preserving your breast	1	2	3	4	5	6	7
16. Avoiding radiation therapy	1	2	3	4	5	6	7
17. Total time it would take for breast cancer treatment which may include surgery, chemotherapy and radiation	1	2	3	4	5	6	7

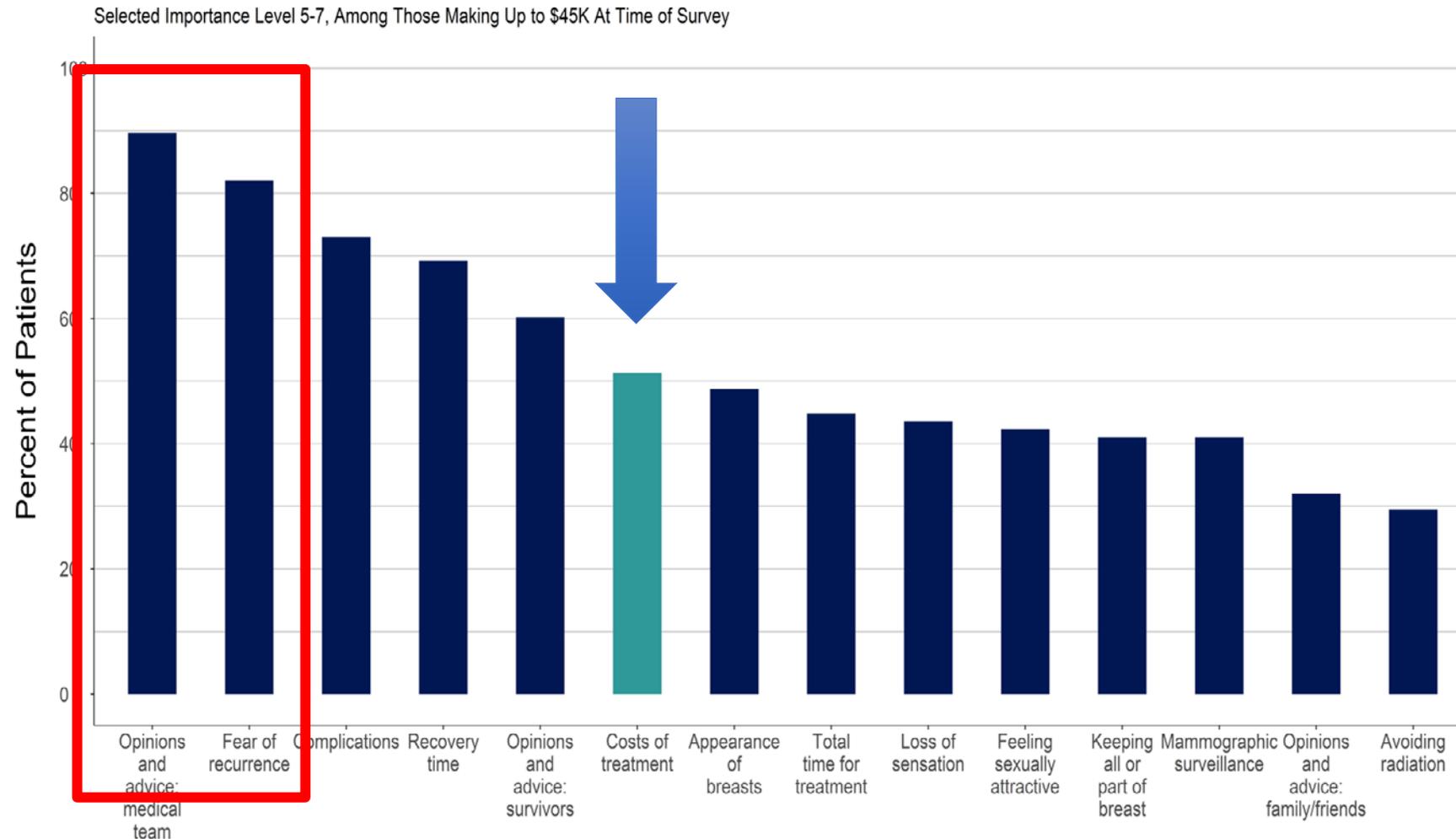
“How important were costs when making surgical decisions?”



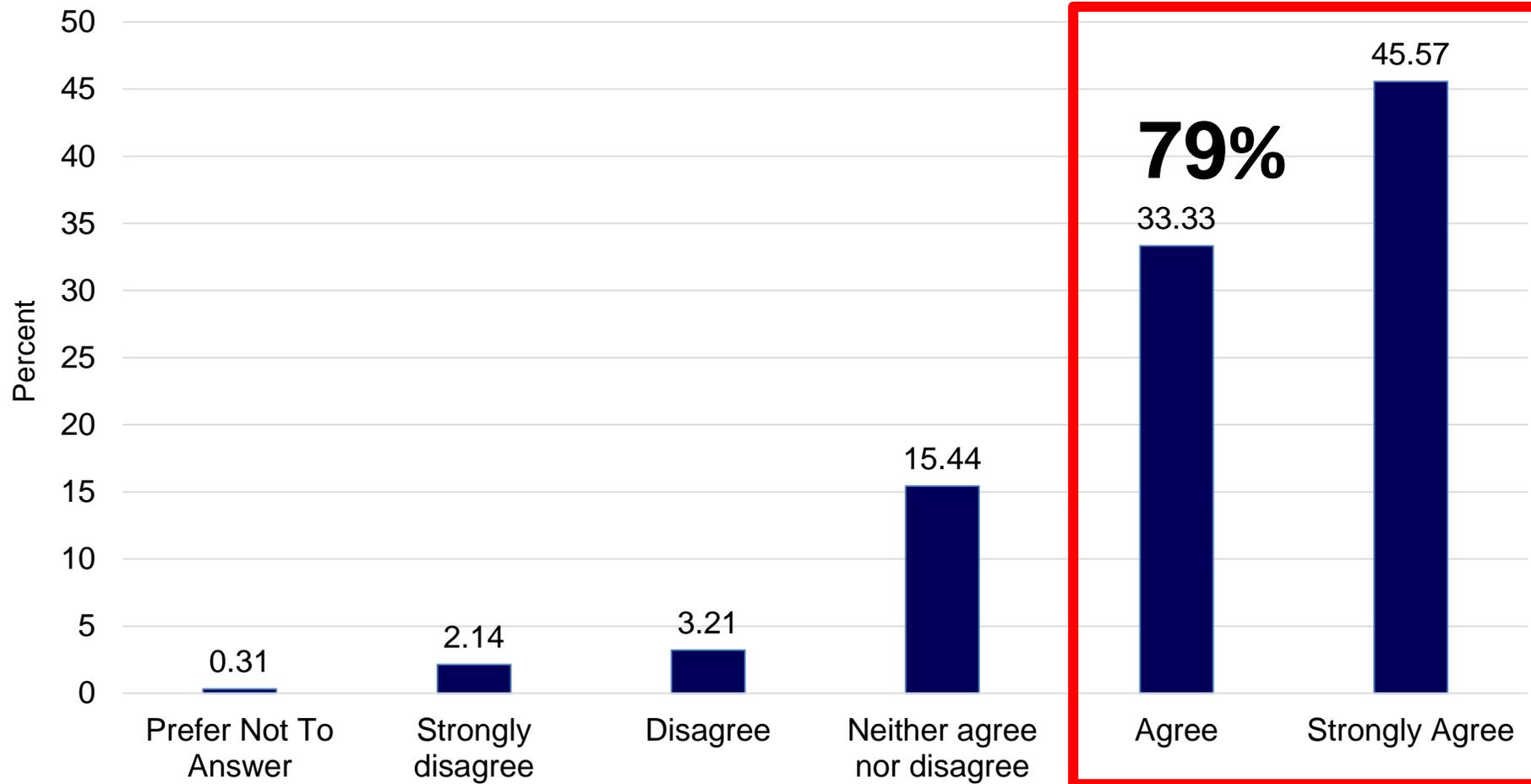
“How important were the following when making decisions for breast cancer surgery?”



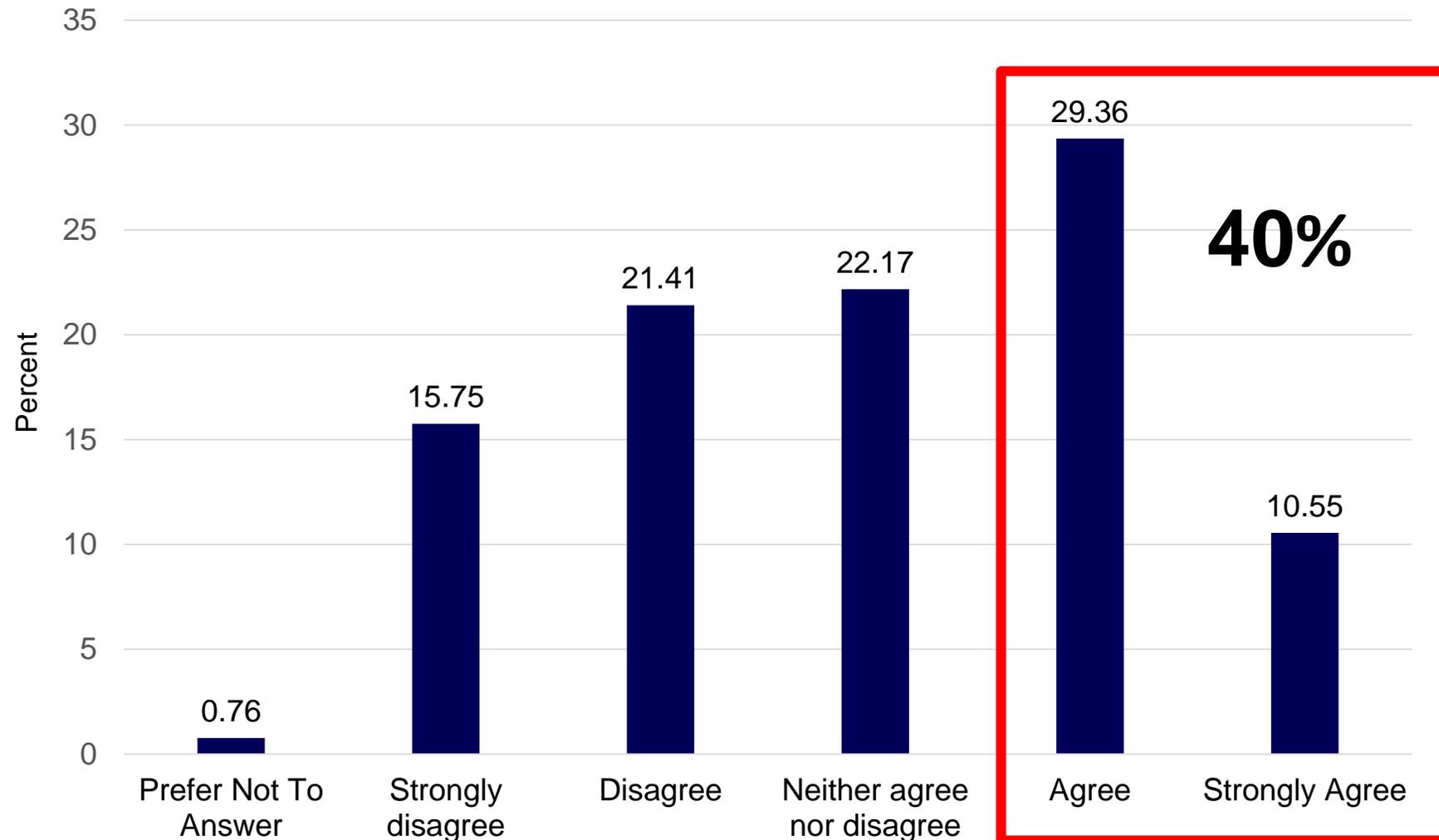
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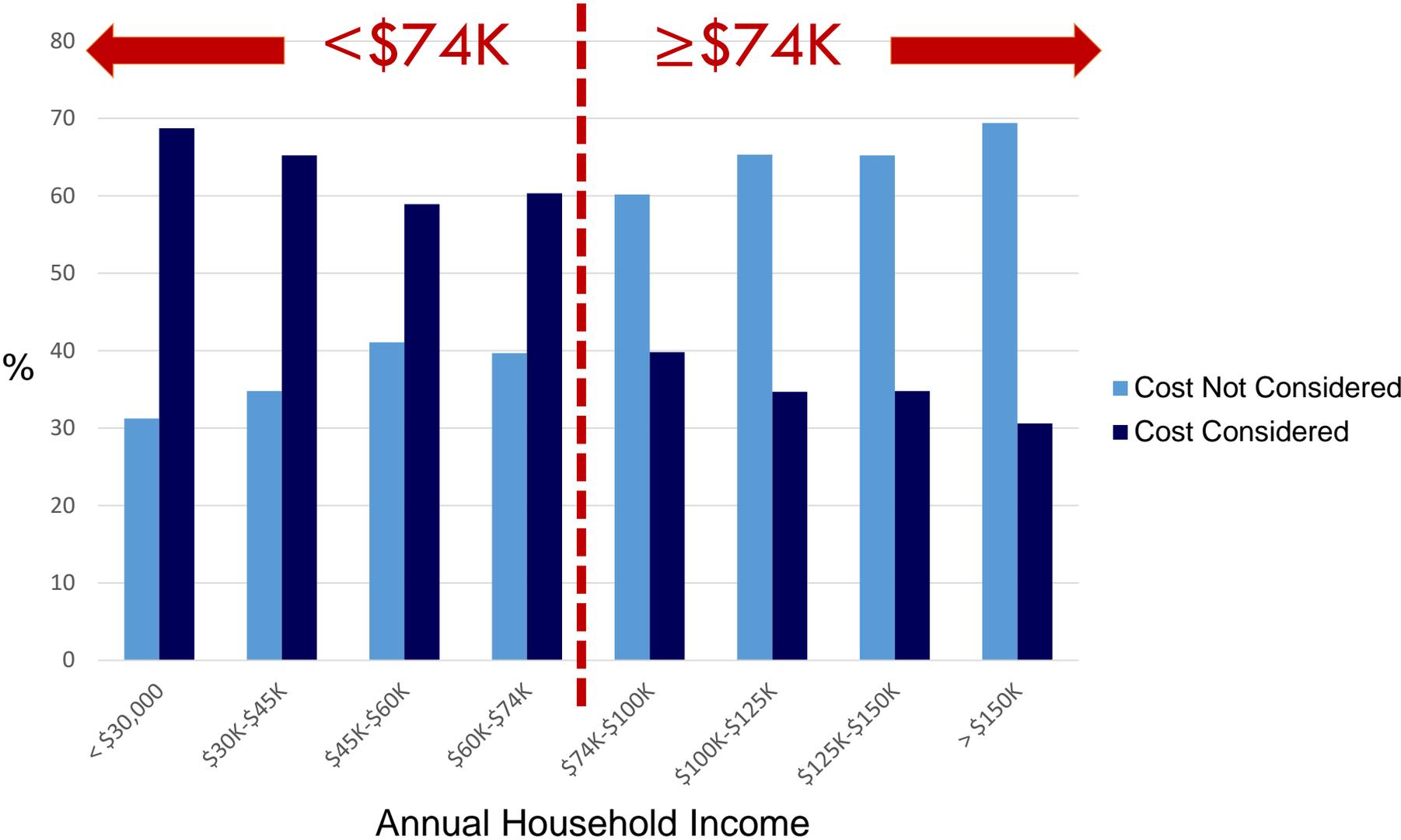
“I prefer to know about the out-of-pocket costs of my treatment before I am treated.”



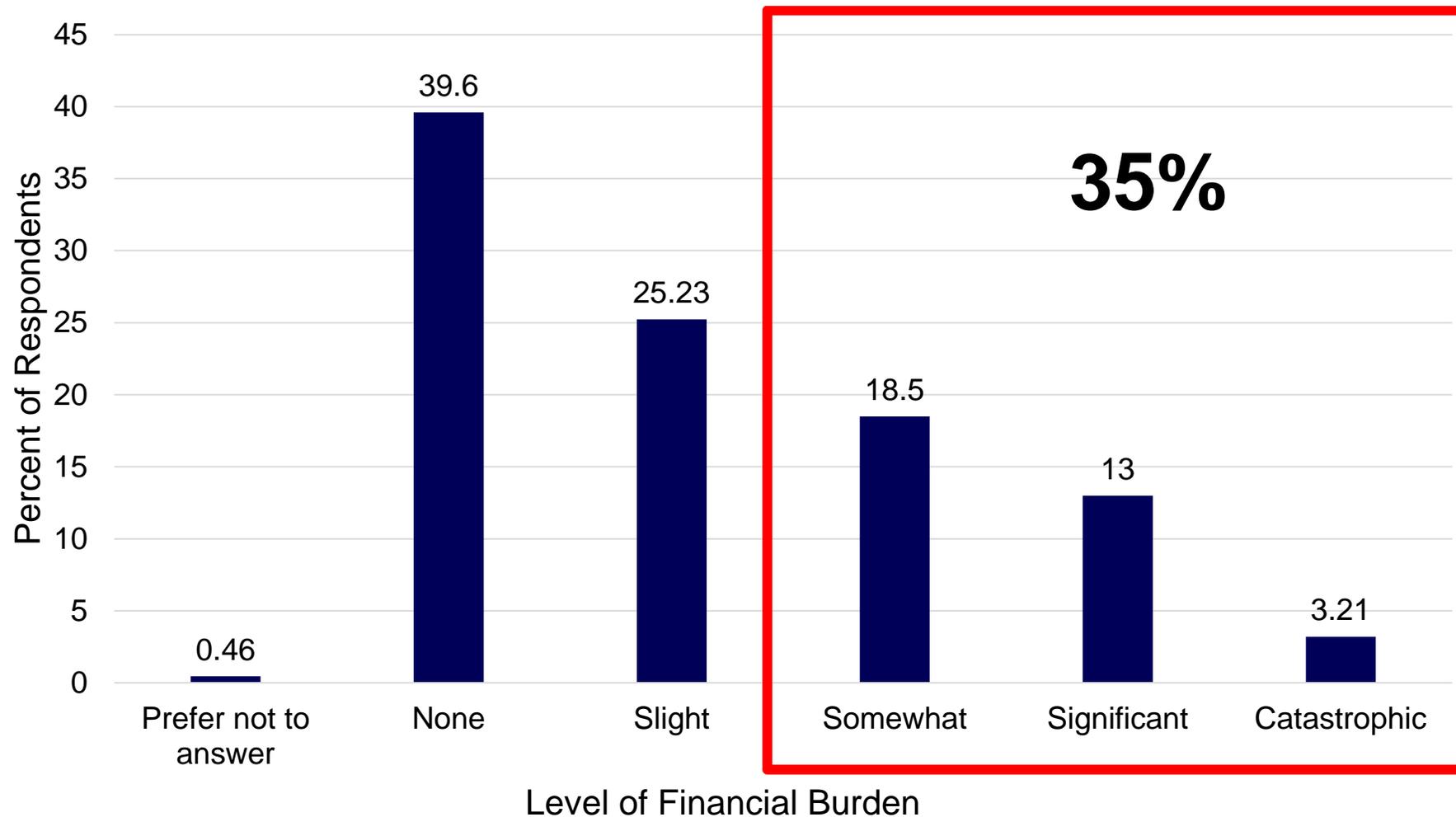
“My doctor should consider my out-of-pocket costs as he/she makes a medical decision.”



COST CONSIDERATION BY INCOME

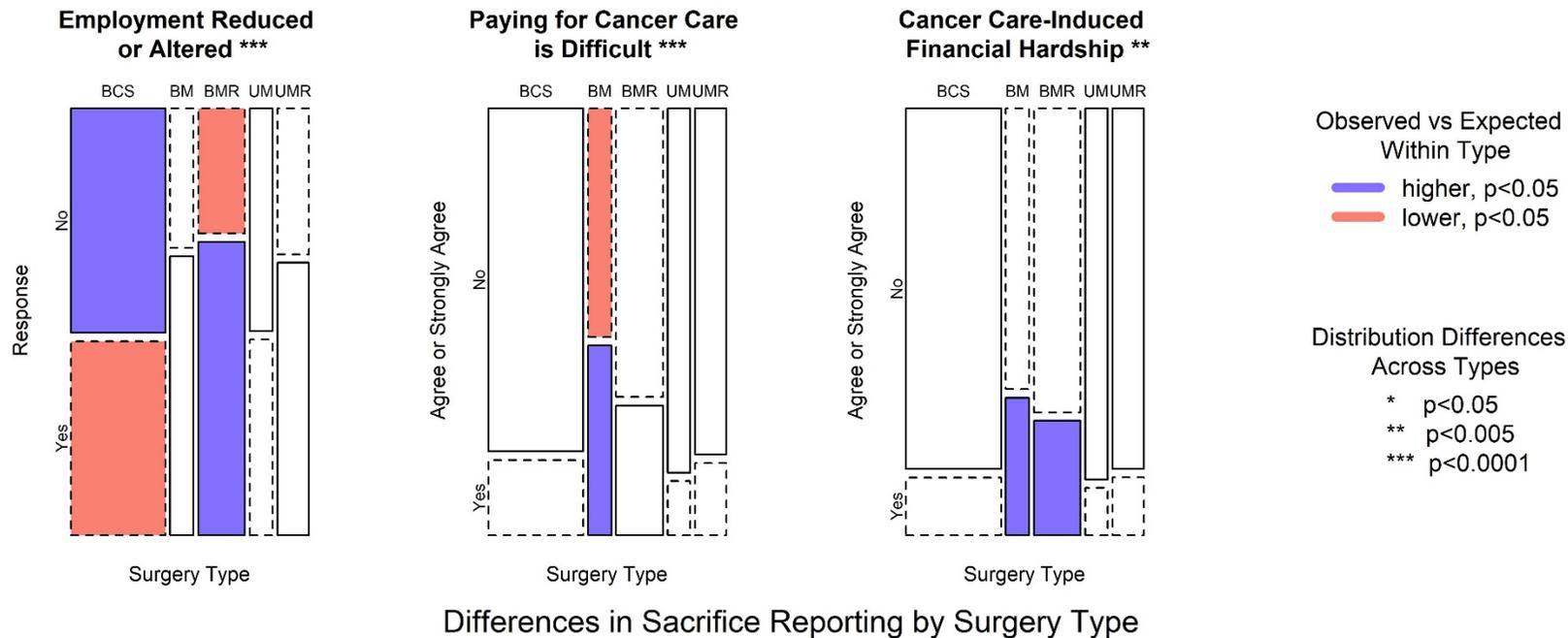


“How much of a financial burden did you experience as a result of your cancer treatment?”



Bilateral mastectomy >> lumpectomy:

- Employment disruption
- Difficulty paying for care
- Cancer care-induced financial hardship



FINANCIAL HARDSHIP

women after breast cancer

- 78% never discussed costs with their cancer team.
- 35% reported higher than expected costs.
- Median reported out-of-pocket costs = \$4,000
 - 5% reported >\$40,000
- Higher OOP costs were associated with ($p < 0.001$):
 - bilateral mastectomy,
 - receipt of chemotherapy
 - breast reconstruction

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“Food, gas, transportation, parking, mastectomy bras, non-healing infection...the non-medical costs were so high.”

“Cancer is expensive. I worry that a recurrence would bankrupt our family, and in that case I would probably forego treatment.”

“It seemed like from the very beginning I was catching up from what had already occurred!”

“At the time of cancer diagnosis I was in too much shock to care about the costs. Just wanted to kill the cancer.”

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How are *surgeons* considering and
communicating costs in shared
decisions for
breast cancer surgery?

ONCOLOGISTS & THE COSTS OF CANCER

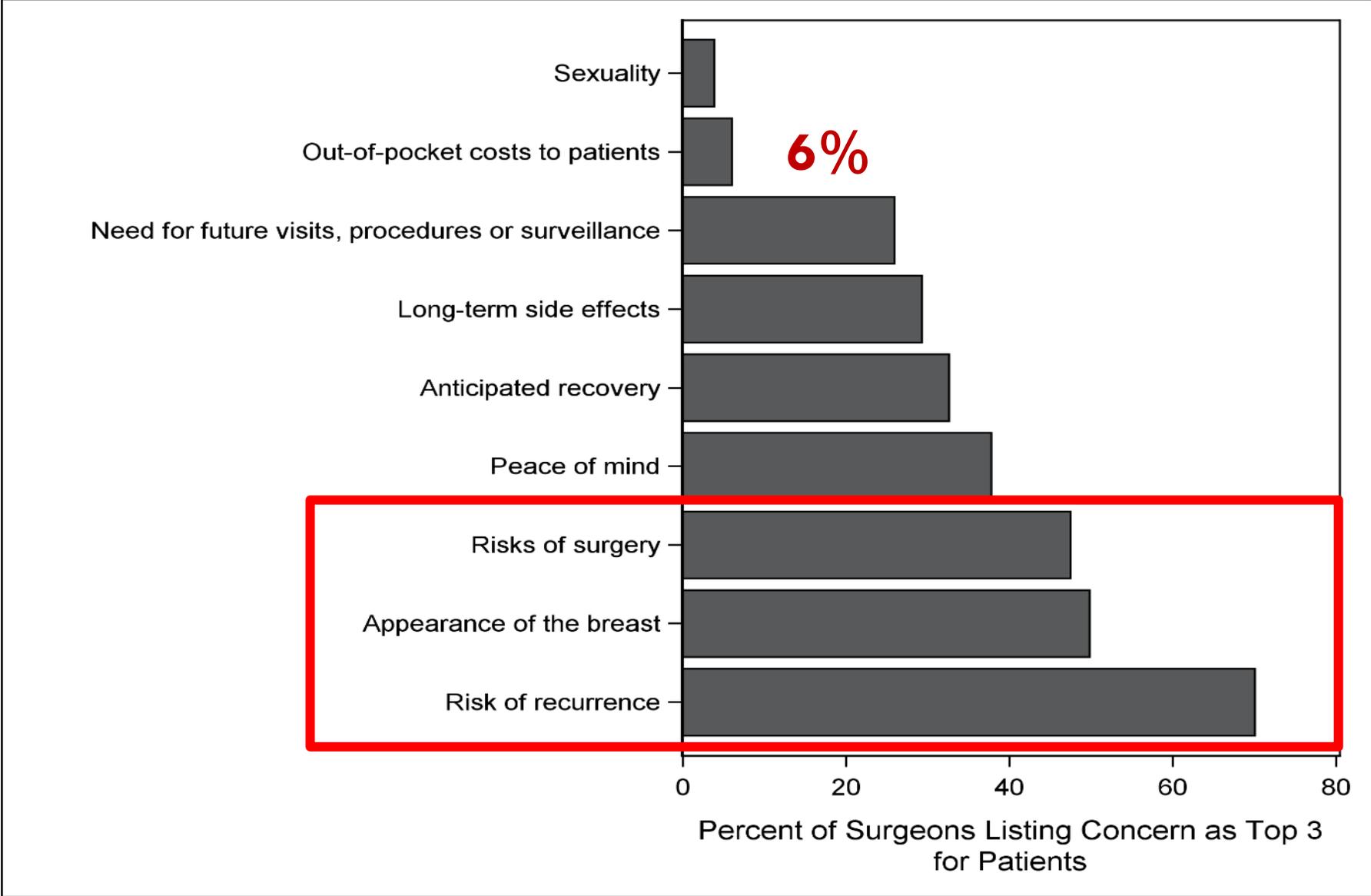
- Cost discussions encouraged but rare
- 20% worry that discussing costs will negatively impact care
- Costs awareness differs between patients and doctors (30% versus 6%)

...Surgeons influence women's choice for breast cancer surgery

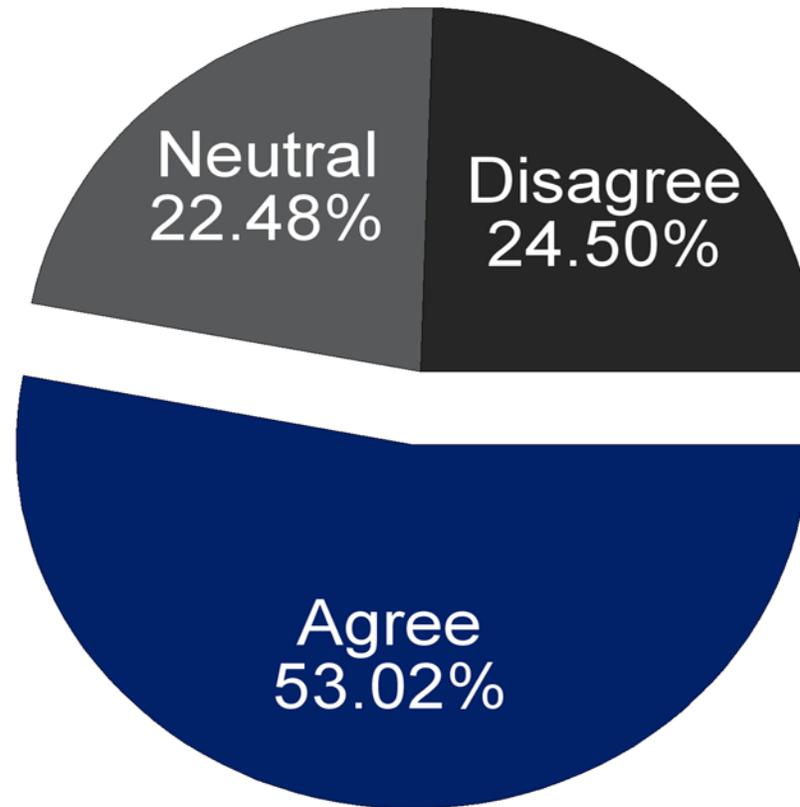
METHODS

- American Society of Breast Surgeons (N=2405)
- 10-item electronic survey
- July 1 - September 10, 2018
- Survey reminders (x2)
- N= 598 (25%) participants

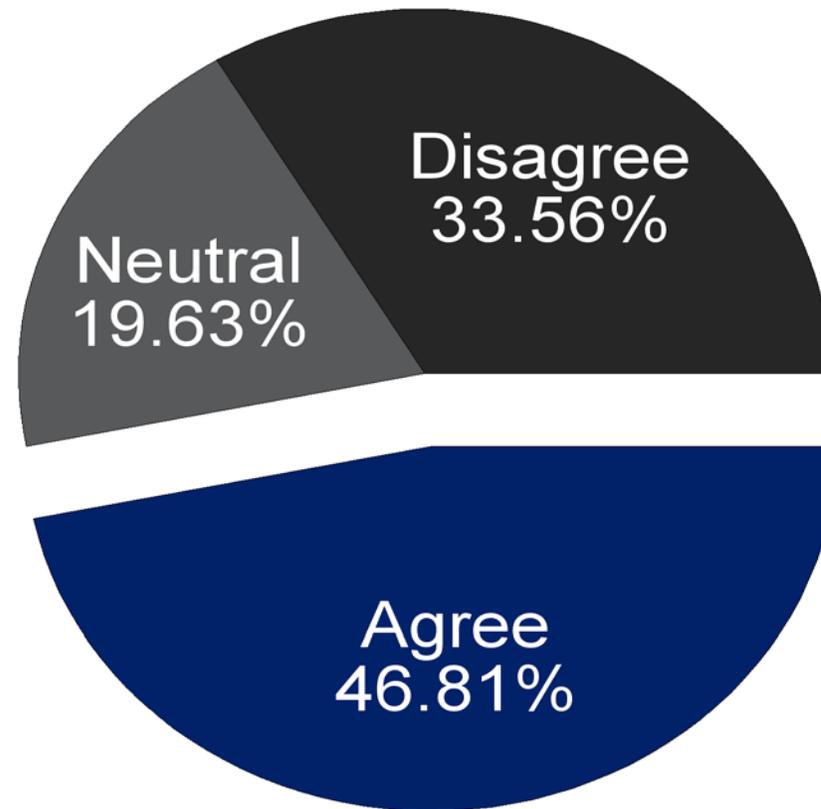
What do women prioritize in their decisions for breast cancer surgery?



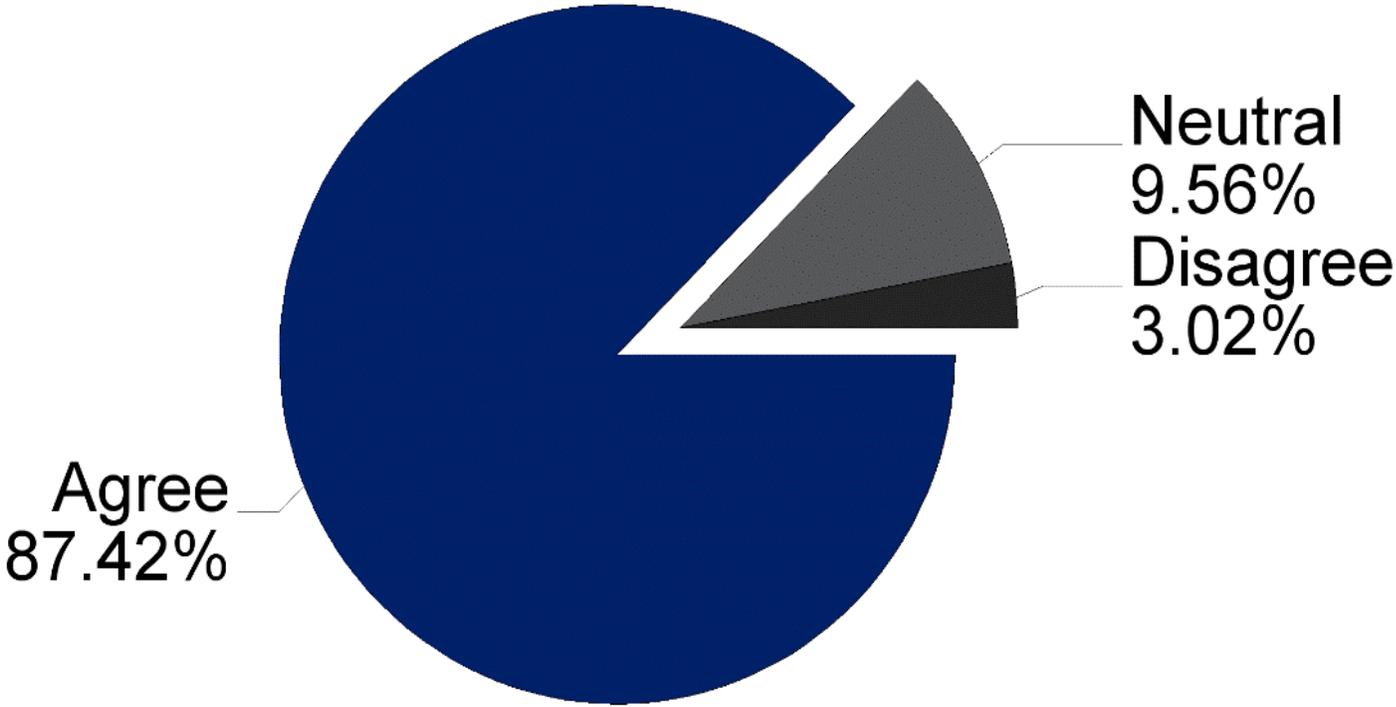
When choosing cancer treatment, doctors should consider patient costs.



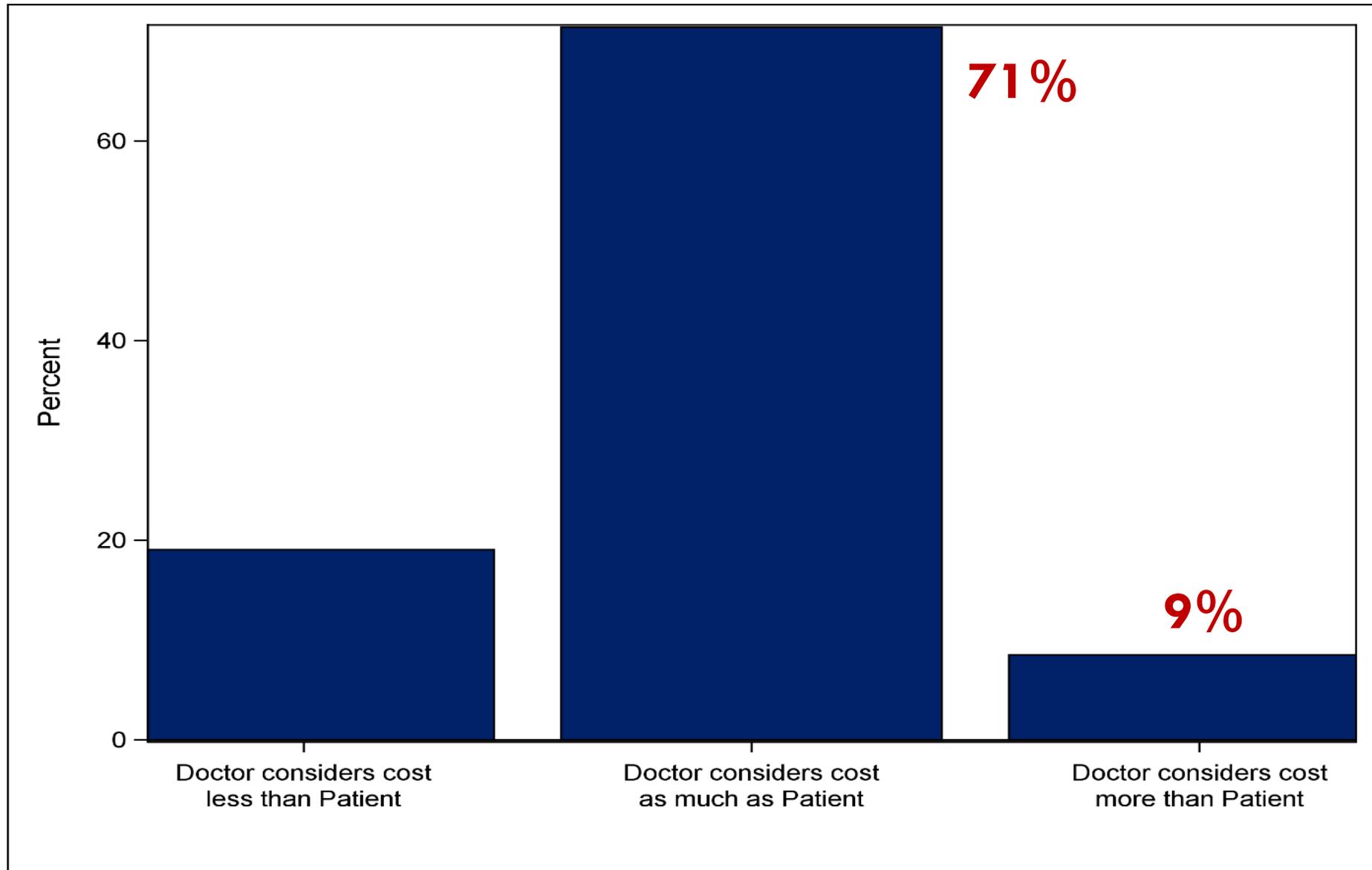
When choosing cancer treatment, doctors should consider the costs to society

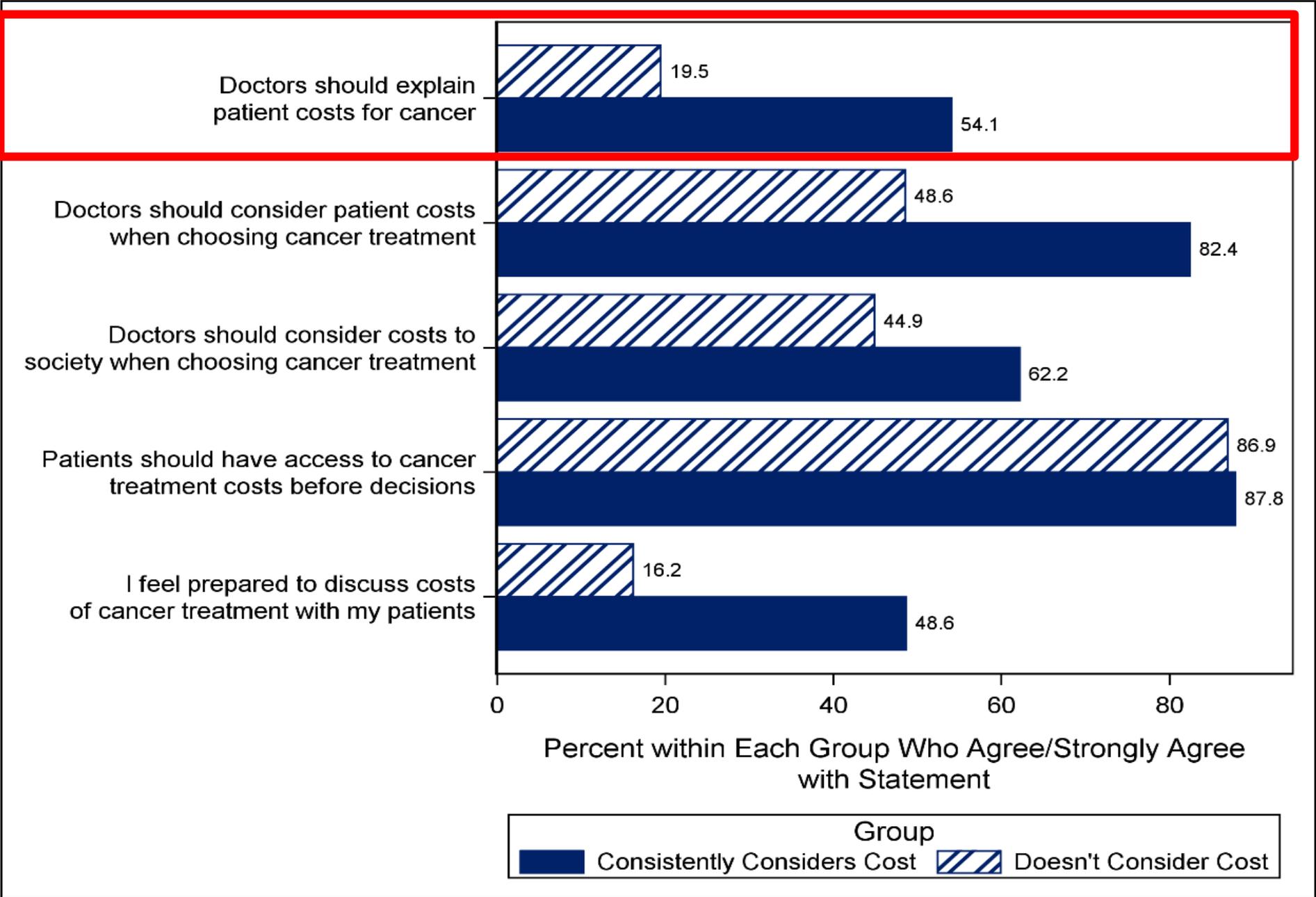


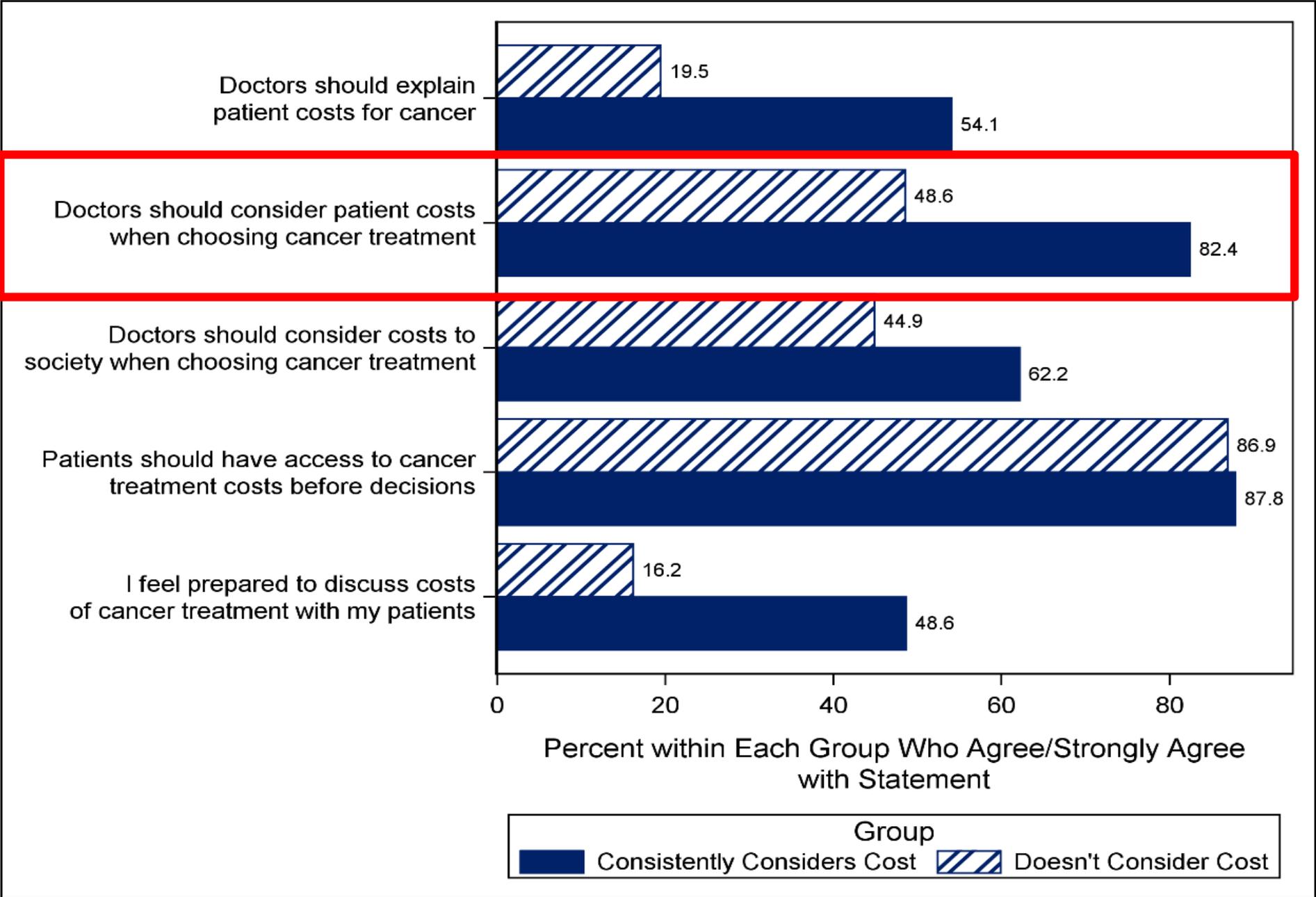
Patients should have access to the costs of their cancer treatment before making treatment decisions.

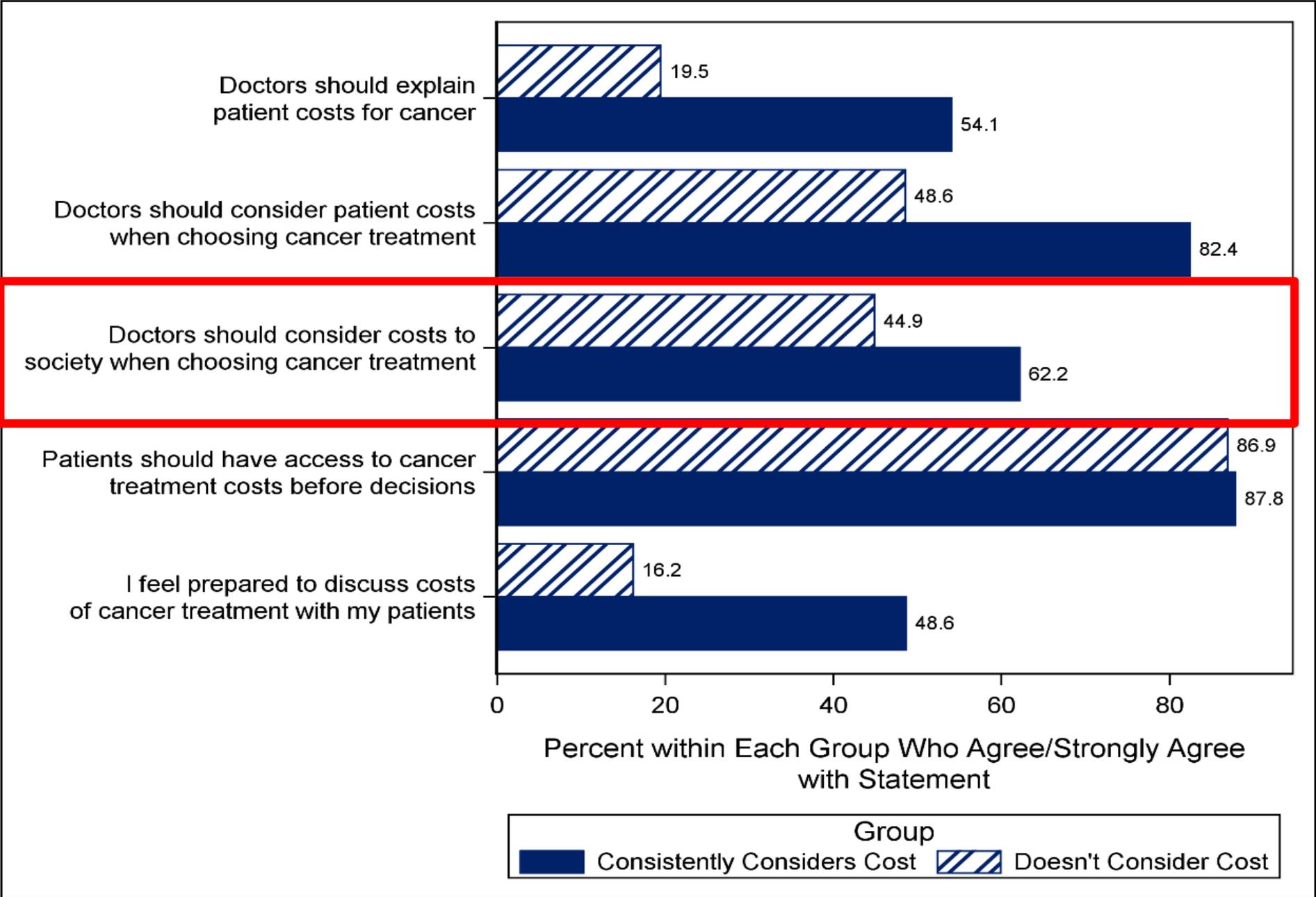


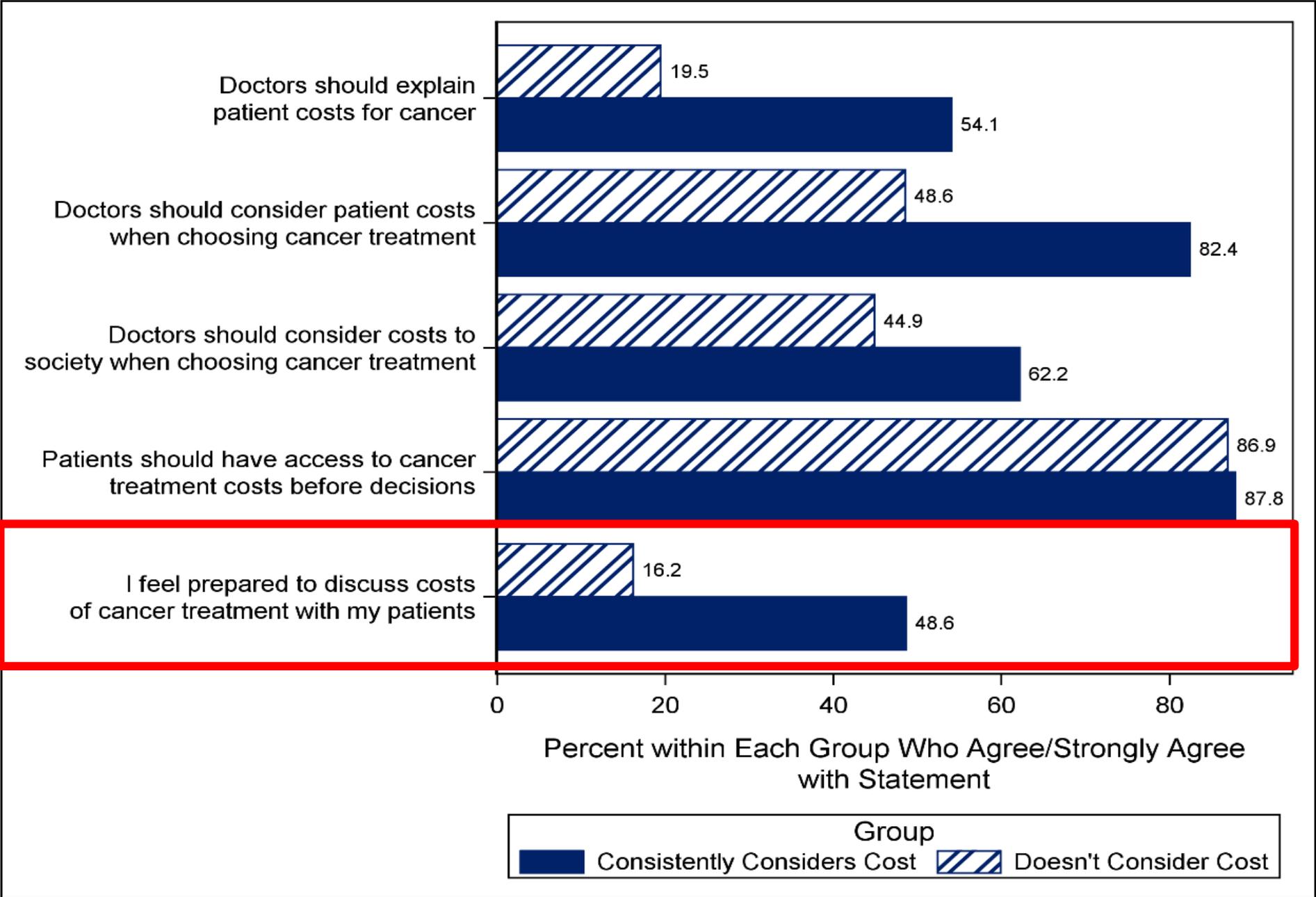
Surgeons (80%) believe they are thinking about costs....



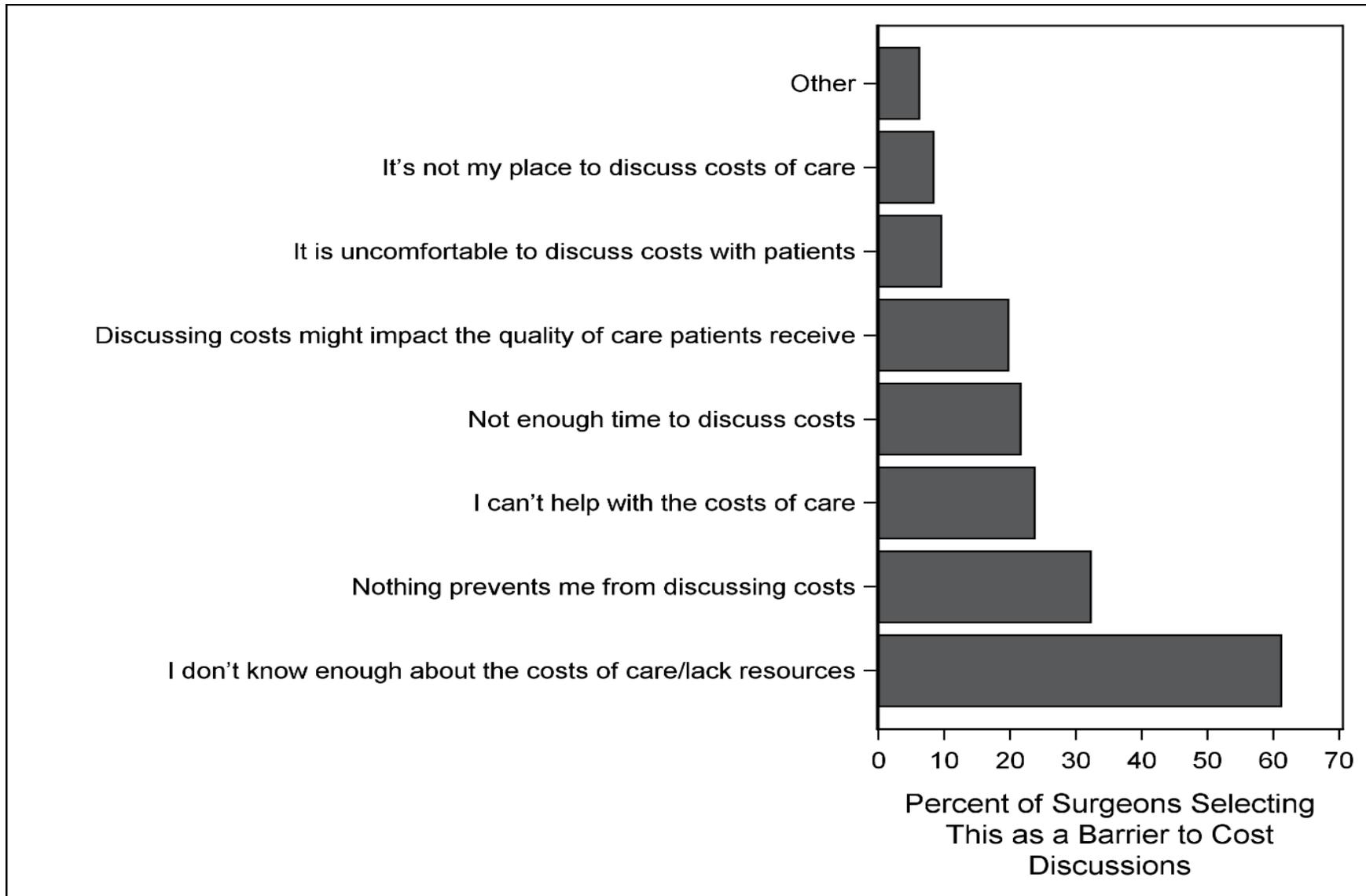








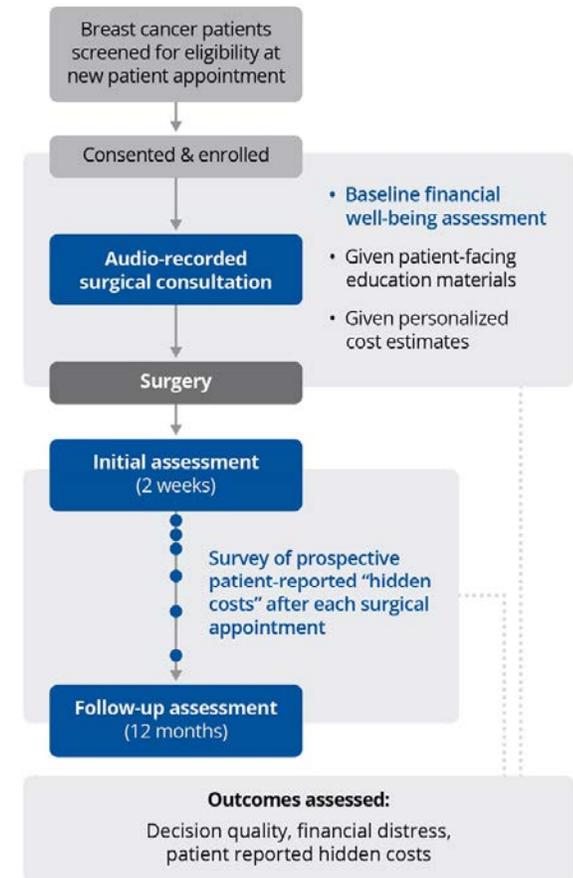
SURGEON-REPORTED BARRIERS TO COST COMMUNICATION



CONCLUSION

in decisions for breast cancer surgery...

- Cost communication does not negatively impact cancer outcomes.
- Women desire cost transparency.
- Physicians under-estimate the importance of costs to our patients.
- Surgeons are often the first point of contact after diagnosis.
- Financial costs and burden related to surgery may impact receipt of adjuvant therapy.



FUTURE DIRECTIONS

- “More is Not Better”
 - Understanding U.S. societal drivers of over-use in oncology
- Accounting for patient-centered care in quality metrics
- Aligning expectations of patients and their doctors
 - Can we engage patients in improving value through authentic communication?

ACKNOWLEDGMENTS

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Duke Cancer Institute

Duke Breast Clinical Outcomes Group

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