

Title

Financial Toxicity in Genitourinary Cancer: Insights from CDC National Health Interview Survey

Authors

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Keywords

Financial Toxicity, Insurance, Urology, Cancer, Cancer Treatment

Introduction

The financial implications for individuals receiving cancer care have become increasingly concerning as the costs of new therapies and treatment modalities increase. However, the effect of these expenses on other aspects medical care is not well understood, especially in the realm of urologic oncology. This study, utilizing data from the CDC National Health Interview Survey, evaluates the financial toxicity (FT) encountered by prostate (PC), kidney (KC), and bladder (BC) cancer patients. It aims to elucidate the economic burdens these patients face with a focus on material, psychological, and behavioral domains of FT.

Methods

This study was a retrospective analysis of genitourinary (GU) cancer patients' responses in the CDC National Health Interview Survey. Patients were stratified based on status of cancer and age (18-64 vs. ≥65 years). Medical financial hardship (MFH) was categorized into three domains: 1) material 2) psychological and 3) behavioral. Generalized ordinal logistic regressions were used to examine the associations between cancer history, hardship, and clinical factors.

Results

Among those aged 18-64, 25% of BC survivors and 4.7% of KC survivors faced difficulties affording mental health services, significantly higher than their non-cancer counterparts (2.7%; p=0.63 and 2.7%; p<0.001, respectively). Regarding dental care, 27% of younger BC survivors and 15% of younger KC survivors delayed or avoided treatment, surpassing rates in the general population. Unexpectedly, individuals without cancer reported greater challenges in affording prescription medications than BC

survivors in both age categories. PC survivors exhibited lower FT compared to non-cancer controls across all health domains, with fewer concerns about medical bills and less likelihood to forgo care.

Conclusion

The findings highlight a critical gap in the financial support system for GU cancer patients, particularly in accessing mental and dental health services. Policy interventions are critically needed to address these disparities including comprehensive insurance reforms to alleviate the financial burden faced by these patients. Further research is needed to develop targeted strategies that can effectively mitigate FT in cancer care.

Table 1. Rates of Medical Financial Hardship for Cancer Survivors and Individuals without a Cancer History by Type of Malignancy							
Measure of Financial Toxicity		Age 18 to 64 years			Age ≥65 years		
		Cancer Survivors	Individuals without a	p-value	Cancer Survivors	Individuals without a	p-value
		% (95% CI)	Cancer History % (95% CI)		% (95% CI)	Cancer History % (95% CI)	
Bladder Cancer							
		<i>n</i> = 567	<i>n</i> = 216,811		<i>n</i> = 187	<i>n</i> = 53,584	
Delaycare or Forego Care	Yes	10 (5.5-15)	13 (13-13)	0.060	10 (6.9-14)	4.8 (4.6-5.0)	0.4
	No	90 (85-94)	87 (87-87)		90 (86-93)	95 (95-95)	
	Cannot Afford Mental Health	Yes	25 (17-33)		2.7 (2.6-2.8)	17 (13-21)	
	No	74 (66-82)	96 (96-97)	0.6	82 (78-86)	99 (98-99)	0.8
	Unknown	0.89 (0.00-2.57)	0.9 (0.84-0.96)		1.1 (0.02-2.2)	0.87 (0.76-0.97)	
Worried About Medical Bills	Yes	19 (12-26)	36 (35-36)	0.090	6.2 (3.9-8.4)	23 (23-24)	0.001
	No	80 (73-87)	34 (34-35)		93 (90-95)	50 (49-51)	
	Unknown	0.89 (0.00-2.6)	30 (29-30)		1.1 (0.02-2.2)	27 (26-28)	
Delay in Dental Care	Yes	27 (19-34)	14 (14-14)	0.3	16 (12-20)	7.3 (7.1-7.6)	0.6
	No	41 (32-50)	85 (85-85)		59 (54-64)	92 (91-92)	
	Unknown	33 (24-41)	0.9 (0.84-0.96)		25 (20-30)	0.88 (0.77-0.98)	
Cannot Afford Prescription Medication	Yes	1.7 (0.24-3.2)	18 (17-18)	0.087	0.68 (0.00-1.7)	16 (15-16)	0.7
	No	97 (95-99)	82 (81-82)		98 (97-100)	83 (83-84)	
	Unknown	1.1 (0.00-2.9)	0.87 (0.82-0.93)		1.1 (0.02-2.2)	0.84 (0.74-0.94)	
Kidney Cancer							
		<i>n</i> = 3,205	<i>n</i> = 216,811		<i>n</i> = 4,891	<i>n</i> = 11,285	
Delay Care or Forego Care	Yes	17 (11-23)	13 (13-13)	0.14	7.0 (2.7-11)	4.8 (4.6-5.0)	0.003
	No	83 (77-89)	87 (87-87)		93 (89-97)	95 (95-95)	
	Cannot Afford Mental Health	Yes	4.7 (0.42-9.0)		2.7 (2.6-2.8)	0.15 (0.00-0.45)	
	No	93 (88-98)	96 (96-97)	< 0.001	98 (96-100)	99 (99-99)	0.3
	Unknown	0.69 (0.00-1.6)	0.90 (0.84-0.96)		1.5 (0.00-3.7)	0.87 (0.76-0.97)	
Worried About Medical Bills	Yes	36 (28-45)	36 (35-36)	0.7	20 (15-26)	23 (23-24)	0.003
	No	37 (28-46)	34 (34-35)		60 (53-67)	50 (49-51)	
	Unknown	27 (18-36)	30 (29-30)		20 (14-25)	27 (26-28)	
Delay in Dental Care	Yes	15 (8.6-22)	14 (14-14)	0.4	8.3 (4.0-13)	7.3 (7.1-7.6)	0.6
	No	83 (76-90)	85 (85-85)		90 (86-95)	92 (92-92)	
	Unknown	1.9 (0.00-4.1)	0.9 (0.84-0.96)		1.5 (0.00-3.7)	0.88 (0.77-0.98)	
Cannot Afford Prescription Medication	Yes	30 (22-38)	18 (17-18)	< 0.001	21 (15-28)	16 (16-16)	0.060
	No	69 (60-77)	82 (81-82)		77 (71-84)	83 (83-84)	
	Unknown	1.9 (0.00-4.1)	0.87 (0.82-0.93)		1.5 (0.00-3.7)	0.84 (0.70-0.94)	
Prostate Cancer							
		<i>n</i> = 738	<i>n</i> = 220,852		<i>n</i> = 2,720	<i>n</i> = 49,813	
Delay Care or Forego Care	Yes	8.5 (5.8-11)	13 (13-13)	0.002	3.3 (2.6-4.0)	4.8 (4.6-5.0)	< 0.001
	No	92 (89-94)	87 (87-87)		97 (96-97)	95 (95-95)	
	Cannot Afford Mental Health	Yes	1.5 (0.43-2.6)		2.7 (2.6-2.8)	0.10 (0.00-0.23)	
	No	97 (95-99)	96 (96-97)	< 0.001	99 (98-99)	99 (98-99)	0.001
	Unknown	0.88 (0.00-2.0)	0.90 (0.84-0.96)		1.2 (0.69-1.7)	0.87 (0.76-0.97)	
Worried About Medical Bills	Yes	27 (22-31)	36 (35-36)	< 0.001	17 (15-18)	23 (23-24)	< 0.001
	No	38 (33-43)	34 (34-35)		57 (54-59)	50 (49-51)	
	Unknown	35 (30-40)	30 (29-31)		27 (24-29)	27 (26-28)	
Delay in Dental Care	Yes	10 (7.3-14)	14 (14-14)	0.035	6.1 (5.0-7.2)	7.3 (7.0-7.6)	0.040
	No	88 (85-91)	85 (85-85)		93 (91-94)	92 (91-92)	
	Unknown	1.5 (0.06-2.9)	0.90 (0.84-0.96)		1.3 (0.73-1.8)	0.88 (0.77-0.98)	
Cannot Afford Prescription Medication	Yes	19 (15-23)	18 (17-18)	0.2	15 (14-17)	16 (16-16)	0.3
	No	79 (75-84)	82 (81-82)		83 (82-85)	83 (83-84)	
	Unknown	1.5 (0.06-2.9)	0.87 (0.82-0.93)		1.2 (0.68-1.7)	0.84 (0.73-0.94)	