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Profound barriers to basic cancer care most notably experienced by uninsured women: Historical note on the present policy considerations

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ABSTRACT

America is considering the replacement of Obamacare with Trumpcare. This historical cohort revisited pre-Obamacare colon cancer care among people living in poverty in California ($N = 5,776$). It affirmed a gender by health insurance hypothesis on nonreceipt of surgery such that uninsured women were at greater risk than uninsured men. Uninsured women were three times as likely as insured women to be denied access to such basic care. Similar men were two times as likely. America is bound to repeat such profound health care inequities if Obamacare is repealed. Instead, Obamacare ought to be retained and strengthened in all states, red and blue.

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Various health care acts or Trumpcare are being considered to replace the Affordable Care Act (ACA) or Obamacare. If any pass they would increase the ranks of the uninsured and decrease the benefits of all, but the wealthiest Americans while increasing their out-of-pocket costs. People living in poverty would suffer the most, especially the Medicaid-eligible or near-eligible in so-called red states. Our profession has a tradition of advocating for quality health care for all and we are again called to action (Gorin, 2017; National Association of Social Workers, 2009). This study revisits pre-Obamacare cancer care and reminds us of the profound barriers to basic care that were experienced by uninsured people, especially women in the USA.

Canada and the USA share a 5,000 kilometer border and many social and economic characteristics, but provide health care in distinct ways. Canada provides universal access to care via a single, public payer, while the USA provides no such guarantee via multiple payers, private and public, historically leaving tens of millions Americans uninsured (DeNavas-Walt, Proctor, & Smith, 2011). This natural policy laboratory presents compelling opportunities to learn from each other. The first Canada-USA study of four major cancer types was sponsored by the General Accounting Office during the George H. W. Bush administration (Keller, Peterson, & Silberman, 1997). It tended to mute enthusiasm for Canada-

like solutions to America's health care problems as it found no practical survival differences between the two countries. Otherwise well designed, it did not account for socioeconomic factors. Our research group thought such comparisons of national "haystacks" tended to lose important "needles" of knowledge. Consider the diversity of people and places in Canada and the USA: women and men, uninsured to well-insured, residing in high poverty to affluent neighborhoods and so on. Overall comparisons of the average effects of countries are bound to miss knowledge about the unique experiences of important subpopulations. We studied breast and colon cancer care in impoverished places in Ontario and California over the past two decades and observed large Canadian advantages on treatment access and survival. In fact, the more impoverished the people or places the larger were the Canadian advantages that were largely explained by their better health insurance coverage (Gorey, Hamm, Luginaah, Zou, & Holowaty, 2017; Gorey et al., 1997). Focusing on the experiences of socioeconomically vulnerable people in vulnerable places seems to magnify clinical and policy significance. This study adds evidence particularly relevant to the unique experiences of uninsured women living in poverty.

Colon cancer care, a common and treatable form of cancer, was studied among those living in poverty in 1990s and 2000s California (Gorey et al., 2011, 2013, 2015). Similar people were originally studied in Ontario. They were excluded from this analysis as no socioeconomic gradients were observed in their care. These historical California cohorts found disadvantages among people living in poverty that were largely accounted for by health insurance inadequacies across the care continuum from waiting times for initial surgical treatment through receipt of chemotherapy to survival. Chemotherapy was preferentially studied as there was much managerial and clinical discretion in its use. However, there was little such discretion in surgical care. Surgical removal of the tumor is the first indicated treatment for nearly all with colon cancer. Most people studied received such a colectomy (93% to 98%). Preliminary analyses suggested that the uninsured may be at grave risk of its nonreceipt and that women may be at greater risk than men (Campbell et al., 2016; Levitz et al., 2015). This secondary analysis explored that novel gender by health insurance hypothesis.

Methods

A cancer registry-based colon cancer cohort of 6,300 people was established in California between 1995 and 2000, joined to the 2000 census and followed until enactment of the ACA. The original study oversampled people living in poverty, randomly selecting a third of its participants from high poverty neighborhoods where 30% or more of the households were poor (Wilson, 2012). The remainder were selected from strata of 5–29% or < 5% poor. This secondary analysis was restricted to 5,466 insured and 310 uninsured people with staged colon cancer.

2,604 were privately and 2,862 publicly insured: Medicare (2,601) or Medicaid (261).

Age can confound any cancer analysis and surgery is indicated therapeutically for stages I-III or palliatively for stage IV colon cancer. A logistic regression tested main effects and the hypothesized interaction (Hosmer, Lemeshow, & Sturdivant, 2013). Their significance was estimated after controlling for age and stage of disease with odds ratios (OR). All rates were directly and internally age and stage-adjusted and reported as percentages. Standardized rate ratios (RR) and rate differences (RD) were reported with 95% confidence intervals (CI). Further methodological details were published (Gorey et al., 2011, 2013, 2015).

Results

Samples are described in Table 1. First, low representation of the uninsured may seem surprising (5%). Hospital social workers work to connect uninsured people with colon cancer to Medicaid or Medicare. Second, the uninsured were a decade younger than the insured: mean ages of 59 and 70; $t(5,774) = 11.41, p < .05$. Not surprisingly, the uninsured were twice as likely to have never been married (22% vs 10%). The uninsured were also more likely to live in high poverty neighborhoods and to be ethnic minority or racialized people of color. They were twice as likely to

Table 1. Descriptions of 5,466 insured and 310 uninsured people with colon cancer.

	Insured, No. (%)		Uninsured, No. (%)	
Age at diagnosis*				
25 – 59	1,096	20.1	160	51.6
60 – 69	1,220	22.3	82	26.5
70 – 79	1,758	32.2	44	14.2
≥ 80	1,392	25.5	24	7.7
Women	2,875	52.6	146	47.1
Marital status*				
Married	3,010	55.1	147	47.4
Never married	558	10.2	69	22.3
Separated or divorced	499	9.1	40	12.9
Widowed	1,291	23.6	32	10.3
Missing data	108	2.0	22	7.1
Ethnicity or racialized group*				
Non-Hispanic white	3,724	68.1	153	49.4
Non-Hispanic black	578	10.6	32	10.3
Hispanic	660	12.1	75	24.2
Asian or Pacific Islander	468	8.6	42	13.5
Other	36	0.6	8	2.6
Neighborhood poverty prevalence (%)*				
< 5	1,889	34.6	70	22.6
5 – 29	1,829	33.5	94	30.3
≥ 30	1,748	32.0	146	47.1
Stage at diagnosis*				
I	1,248	22.8	52	16.8
II	1,791	32.8	91	29.4
III	1,314	24.0	78	25.2
IV	1,113	20.4	89	28.7

* Health insurance group differences were statistically significant (χ^2 test, $p < .05$).

be Hispanic (24% vs 12%). Finally, the uninsured tended to have more advanced disease.

Regression observed a significant effect of being uninsured (OR = 3.20), no effect of gender and, as hypothesized, a significant gender by health insurance interaction. Together they accounted for nearly half of surgery nonreceipts (46%). Ethnicity/race did not enter the regression. Poverty and marital status did ($p < .05$), but were not practically significant. They only explained 0.5% more nonreceipts. The main and interacting effects of gender and health insurance are practically depicted in Table 2. There was no main effect of gender. Overall, women and men had nearly identical surgery nonreceipt rates. However, there was an extremely large main effect of being uninsured. Relative to the insured, they experienced approximately three times the risk (RR = 2.83). In fact, one of every five uninsured people did not receive surgery. The interaction in the bottom of the table depicts great risk among uninsured men (RR = 2.30), but even greater risk among uninsured women (RR = 3.34).

Description of interaction strata aided interpretation. Among the insured, men were more likely to be privately insured (52% vs 43%) and to be married (71% vs 42%); $\chi^2(1) = 40.72$ and $\chi^2(1) = 452.60$, both $p < .05$. But among the uninsured, women were more likely to be unmarried (55% vs 43%); $\chi^2(1) = 3.96$, $p < .05$. Married men clearly had greatest access to employment-based health insurance. Finally, there can be legitimate reasons for refusing surgery. Among the insured, 8% refused surgery, but this refusal rate did not differ by gender. Few of the uninsured refused surgery (2%) and again, this rate was the same for women and men.

Table 2. Main effects and interaction of gender and health insurance on non-receipt of colon cancer surgery ($N = 5,776$).

	No. ^a	Rate (%) ^b	RR ^c	95% CI	RD
Main effects of gender and health insurance					
Gender					
Men	2,755	7.8	1.00		
Women	3,021	7.2	0.92	0.76, 1.12	0.6%
Health insurance					
Insured	5,466	7.0	1.00		
Uninsured	310	19.8	2.83	2.20, 3.63	12.8%
Gender by health insurance interaction					
Men					
Insured	2,591	7.3	1.00		
Uninsured	164	16.8	2.30	1.61, 3.29	9.5%
Women					
Insured	2,875	6.7	1.00		
Uninsured	146	22.4	3.34	2.41, 4.63	15.7%

Notes. CI = confidence interval, RR = standardized rate ratio, RD = standardized rate difference. Bolded RRs or RDs were statistically significant (χ^2 -based CI, $p < .05$).

^aNumber of people with colon cancer.

^bAge and stage-adjusted surgery nonreceipt rates.

^cA rate ratio of 1.00 was the within-group baseline.

Discussion

Social work researchers have long called for the study of interaction effects (de Smidt & Gorey, 1997; Lundahl, Yaffe, & Hobson, 2009; Videka-Sherman, 1988). This seems convergent with the call of intersectionality theorists for more complex study of interlocking systems of privilege and oppression (Bowleg, 2012; Hulko, 2009). This study demonstrated the contemporary importance of these principles. If this had been a study of mere main effects one might have concluded that gender does not matter. But study of the gender by health insurance interaction showed that gender profoundly matters. Women were more disadvantaged by being uninsured than men in pre-Obamacare America. If Trumpcare becomes law, America's history of allowing such multiplicative disadvantages as we and others have observed among women, people of color, people living in poverty and the inadequately insured are certain to be repeated.

Our findings may not be generalizable to all Americans. But given that one in ten Americans lives in California, they seem to have ample external validity. The original database overrepresented people living in poverty so our findings are most representative of their experiences. Moreover, California expanded its Medicaid program more liberally under Obamacare than most states so estimates of inequities there are probably underestimates of the nation. Also, some of this study's subsamples were modest (146 uninsured women, 164 uninsured men). Still it had ample power to detect its large effects (Fleiss, Levin, & Paik, 2003). Moreover, other subsamples (2,875 insured women, 2,591 insured men) served as multiple "controls," ensuring statistical power.

Historical note on the present policy considerations

Rather than replacing the ACA, this study's findings supported its retention and strengthening. For lack of support, the ACA moved many from the ranks of the uninsured to the underinsured. Most private plans purchased through exchanges have been so-called bronze plans with very high deductibles and co-payments and many state Medicaid programs have been similarly compromised (Gorey et al., 2017). All of the Trumpcare iterations would magnify such coverage gaps, essentially making most health insurance plans, private and public, more purchasable, but less usable, especially among people living in poverty or near poverty. Adequately supported exchanges are needed to eliminate the gross inequities in private health insurance plans that range from platinum to bronze. Medicaid ought to be equitably expanded and supported across all states, red and blue. Well-supported Obamacare would reduce health care inequities much more effectively than Trumpcare, but single-payer reform would probably eliminate them.

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Declaration of interest

The authors report no potential conflicts of interest.

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