

Cancer Prevalence Among Adults with Criminal Justice Involvement from a National Survey

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INTRODUCTION

The number of individuals under correctional control in the USA has increased substantially. By 2016, approximately 6 million individuals were incarcerated or under community supervision on any given day.¹ Individuals involved in the criminal justice system are known to have high rates of chronic physical and behavioral health conditions, but cancer prevalence and outcome measures remain limited. Individuals who are incarcerated have reported delays in cancer screening and some studies have suggested certain cancers may be more prevalent among individuals with a history of criminal justice involvement, but these studies have been regional or unable to parse out cancer subtypes.^{2–4} To our knowledge, national studies of the relation between incarceration and cancer prevalence and stage at diagnosis have not been conducted, resulting in an important knowledge gap regarding cancer disparities in the USA.

MATERIALS AND METHODS

We used 10 years of data from the National Survey on Drug Use and Health (NSDUH) to examine differences in cancer prevalence among individuals with and without prior criminal justice involvement. Our sample included US residents ages 18 and older, including individuals in non-institutional group housing (e.g., college dormitories, military barracks) and without permanent housing (e.g., living in a homeless shelter), but currently institutionalized individuals (e.g., hospitalized, currently incarcerated) are excluded in this survey. Survey respondents who had ever been arrested and booked were considered to have a history of criminal justice involvement.

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Given that criminal justice–involved populations may be at risk for delayed screening and have higher rates of substance use disorders,⁵ we examined the prevalence of cancers that are substance use related (i.e., related to smoking or alcohol use), and can be detected with guideline-based screening (i.e., lung, cervical, colon, breast, and prostate). History of lung cancer alone was ascertained from 2007 to 2014. Since 2015, survey respondents were provided with a list of cancers from which to choose. We examined substance use–related cancer prevalence by grouping cancers as smoking related (bladder, kidney, larynx/windpipe/lung, and mouth/tongue/lip/throat/pharynx) and alcohol related (esophagus/stomach and gallbladder/liver/pancreas). We used multiple logistic regression with predictive margins to estimate cancer prevalence and odds, stratifying by criminal justice involvement.

RESULTS

In our weighted sample, 17.1% of individuals reported a history of criminal justice involvement (in 2015–2017). Individuals with criminal justice involvement were more likely to be male (71.1% vs. 43.5%), younger (mean age 44.2 years vs. 45.8 years), and Black (15.3% vs. 11.1%) compared with those without (all $p < .001$). Individuals with criminal justice involvement had a higher age-adjusted prevalence of lung cancer, cervical cancer, and alcohol-related cancer compared with those without criminal justice involvement (Table 1). Smoking-related cancers were not significantly more prevalent among individuals with criminal justice involvement, although these estimates are likely limited by adequate power.

DISCUSSION

We present the most recent estimates of cancer prevalence in Americans with a history of criminal justice involvement. This is the first national study to identify an increased prevalence of lung cancer and alcohol-related cancers in those with criminal justice involvement. Higher

Table 1 Adjusted Cancer Prevalence per 1000 Individuals by Past Year Criminal Justice Involvement (CJI) Status

Cancer type	Past year CJI <i>N</i> = 15,563	No past year CJI <i>N</i> = 70,222	Difference (95% CI) [†]	<i>p</i> value
	Prevalence estimate (95% CI)*	Prevalence estimate (95% CI)*		
Lung (2008–2017) [‡]	4.6 (3.4 to 5.9)	2.4 (2.1 to 2.7)	2.3 (0.9 to 3.6)	.001
Cervical	13.8 (9.9 to 17.7)	9.1 (7.8 to 10.5)	4.7 (0.8 to 8.6)	.02
Colon	7.0 (4.3 to 9.6)	5.7 (4.7 to 6.6)	1.3 (−1.5 to 4.1)	.36
Breast [§]	31.7 (19.0 to 44.5)	38.6 (35.4 to 41.8)	−6.9 (−19.4 to 5.6)	.27
Prostate	23.1 (17.2 to 29.0)	25.6 (22.4 to 28.8)	−2.5 (−8.9 to 3.9)	.44
Smoking-related [¶]	11.9 (8.0 to 15.8)	8.4 (7.4 to 9.4)	3.5 (−0.7 to 7.7)	.11
Alcohol-related [#]	3.5 (2.0 to 4.9)	1.7 (1.2 to 2.3)	1.7 (0.2 to 3.3)	.03

*Adjusted for age; referent group = no CJI

[†]Past year CJI compared with no past year CJI/reference

[‡]2008–2014 lung cancer option on survey: “Ever had lung cancer.” 2015–2017 other cancers added and lung cancer option: “Ever told had cancer?” if so, “Type of cancer: larynx/windpipe/lung”

[§]Women only

^{||}Men only

[¶]Bladder, kidney, larynx/windpipe/lung (from 2015 to 2016 survey), and mouth/tongue/lip/throat/pharynx

[#]Esophagus/stomach and gallbladder/liver/pancreas

lung cancer prevalence is likely explained by high baseline rates of smoking and limited access to treatment programs for nicotine use disorder.⁶ There was a higher prevalence of cervical cancer among justice-involved women compared with those never arrested, similar to findings in past studies. Possible mechanisms include higher rates of sexually transmitted infections and limited follow-up. Similarly, alcohol-related cancers were more common among justice-involved populations, and though not statistically significant, smoking-related cancers trended toward higher prevalence in this population.

Colon, breast, and prostate cancers were similarly prevalent between the two groups and may reflect under-diagnosis given lower screening rates in those with criminal justice system involvement.

Our results are likely limited by poor statistical power given that cancer diagnoses were relatively uncommon in our sample. Our analyses highlight the need for improved data collection of chronic disease prevalence, including cancer, among this population.

In summary, lung cancer, cervical cancer, and alcohol-related cancers are significantly more common among Americans with a history of criminal justice involvement compared with the general population. Additional research on the causal relationship between incarceration and cancer is urgently needed and is particularly relevant for primary care providers who are at the forefront of cancer screening interventions.

Contributors: There are no other contributors.

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Compliance with Ethical Standards:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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