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INTRODUCTION

- Lung cancer (LC) incidence has been decreasing in the US overall, largely due to declining smoking trends.
- Adenocarcinoma incidence has been relatively stable compared to the other histological subtypes until recently, causing its proportion among lung cancer cases to increase.
- Trends of histology-specific lung cancer incidence vary by sociodemographic characteristics. It is critical to understand the extent and trends of these variations.

METHODS

- Data: Surveillance, Epidemiology, and End Results (SEER) 17 registry over 2000-2019, which covers approximately 27 percent of the US population
- Trends in annual age-adjusted lung cancer incidence were assessed using the Joinpoint regression
- Histological subtypes: Small cell, Squamous cell, Adenocarcinoma, Other cell
- Urbanicity: US counties stratified by the Rural-Urban Continuum Codes

METHODS (continued)

- Race/ethnicity: Non-Hispanic White (NH-White), Non-Hispanic Black (NH-Black), Non-Hispanic American Indian and Alaska Native (NH-AI/AN), Non-Hispanic Asian or Pacific Islander (NH-API), and Hispanic
- Education levels: US counties grouped in quartiles of the percentage of people who are 25 or older and have at least bachelor's degree based on the American Community Survey (ACS)
- Poverty levels: US counties grouped in quartiles of the percentage of persons at above the federal poverty line based on the ACS

RESULTS AND DISCUSSION

- Despite the general declines in LC incidence across racial/ethnic groups, except for adenocarcinoma in females, the extent of decreases varied, and racial differences remain, with NH-White, NH-Black, and NH-AIAN having the largest incidence still.
- Small cell and squamous cell LC incidence have been decreasing in all counties, with faster declines in males vs. females and in more educated or wealthier counties.
- LC incidence has been decreasing in both urban and rural areas for all histological subtypes, with faster declines in urban than rural areas, except adenocarcinoma.
- The relative rate of LC incidence in rural vs. urban counties is generally increasing for all histological subtypes.
- Differences in LC incidence trend by histology provide some insights for broader sociodemographic and regional inequalities.**

RESULTS

Table 1. Annual Percent Change (APC) and its 95% confidence interval (CI) in age-adjusted lung adenocarcinoma incidence by histology and race/ethnicity in US females.

	Trend 1		Trend 2		Trend 3		Trend 4	
	Year	APC (95% CI)	Year	APC (95% CI)	Year	APC (95% CI)	Year	APC (95% CI)
NH-White	2000-2004	-1.2 (-1.8, -0.5)*	2004-2009	3.7 (3.2, 4.5)*	2009-2014	1.7 (1.0, 2.3)*	2014-2019	-0.3 (-0.9, 0.1)
NH-Black	2000-2012	3.2 (2.4, 7.9)*	2012-2019	0.5 (-4.8, 1.9)				
NH-AI/AN	2000-2017	5.2 (2.9, 22.8)*	2017-2019	-22.4 (-40.6, 3.7)				
NH-API	2000-2007	1.6 (-2.0, 2.8)	2007-2011	4.7 (2.1, 6.8)*	2011-2019	1.2 (0.2, 1.9)*		
Hispanic	2000-2019	2.0 (1.4, 2.7)*						

Table 2. Annual Percent Change (APC) and its 95% confidence interval (CI) in age-adjusted lung adenocarcinoma incidence by histology and urbanicity in US females.

	Trend 1		Trend 2		Trend 3		Trend 4	
	Year	APC (95% CI)	Year	APC (95% CI)	Year	APC (95% CI)	Year	APC (95% CI)
Rural	2000-2003	-5.2 (-10.8, -1.0)*	2003-2011	4.7 (3.7, 8.2)*	2011-2019	1.2 (-0.2, 2.0)		
Urban	2000-2005	-0.1 (-1.1, 0.5)	2005-2009	3.7 (2.8, 4.9)*	2009-2013	1.7 (0.6, 2.6)*	2013-2019	-0.1 (-0.7, 0.2)

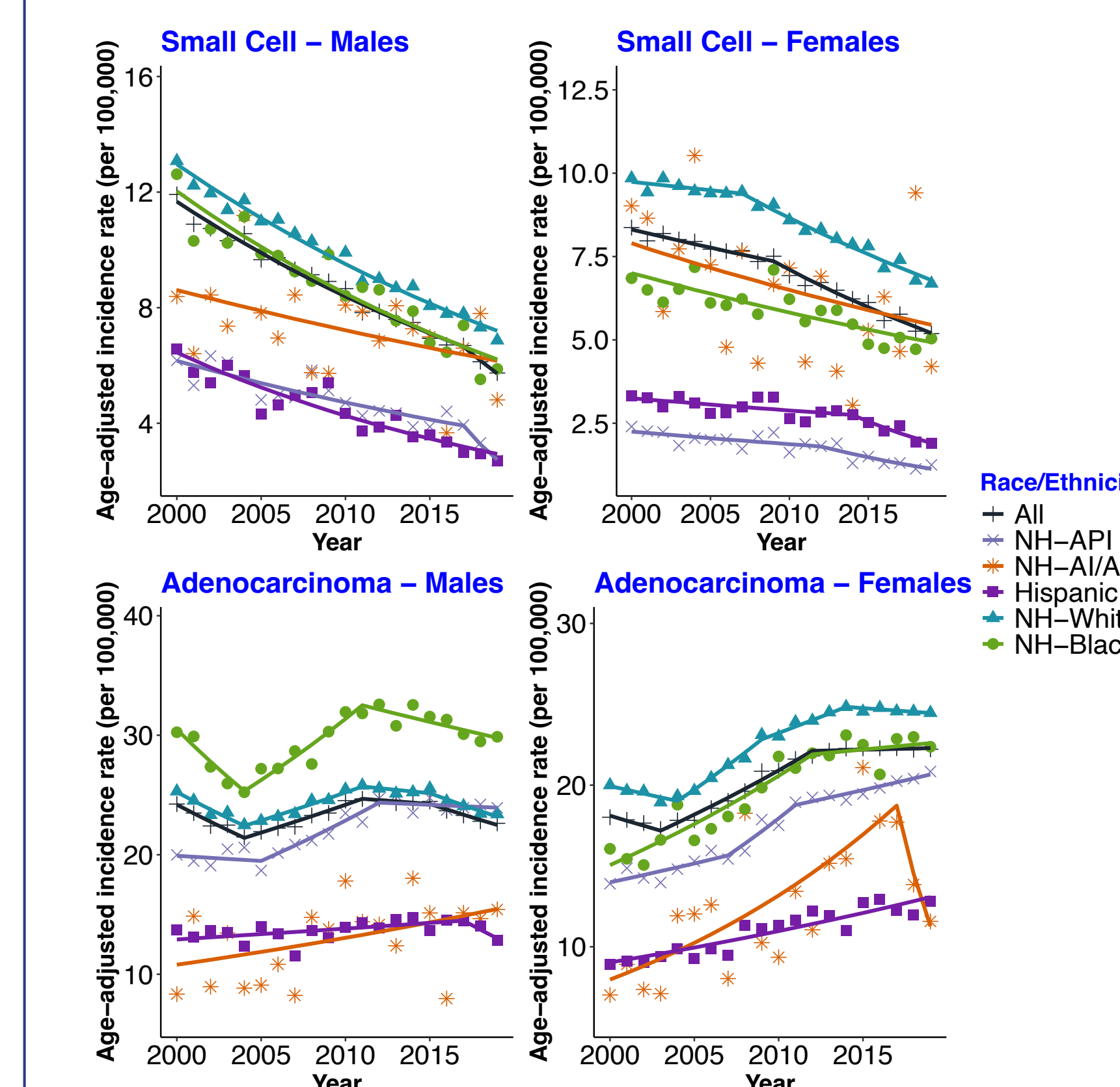


Figure 1. Age-adjusted incidence of lung cancer by race/ethnicity and gender.

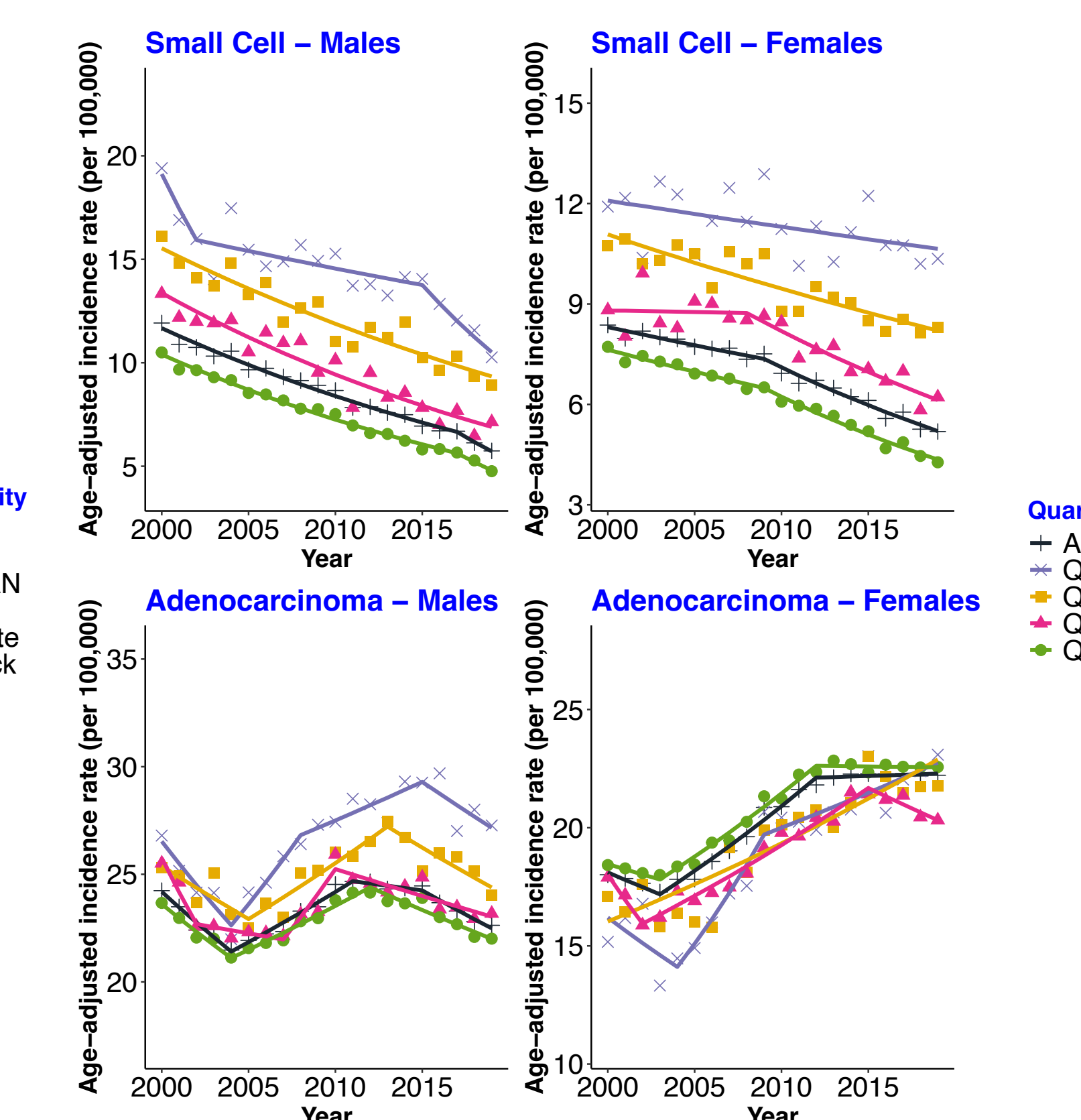


Figure 2. Age-adjusted incidence of lung cancer by education and gender.



Figure 3. Age-adjusted incidence of lung cancer by urbanicity and gender.