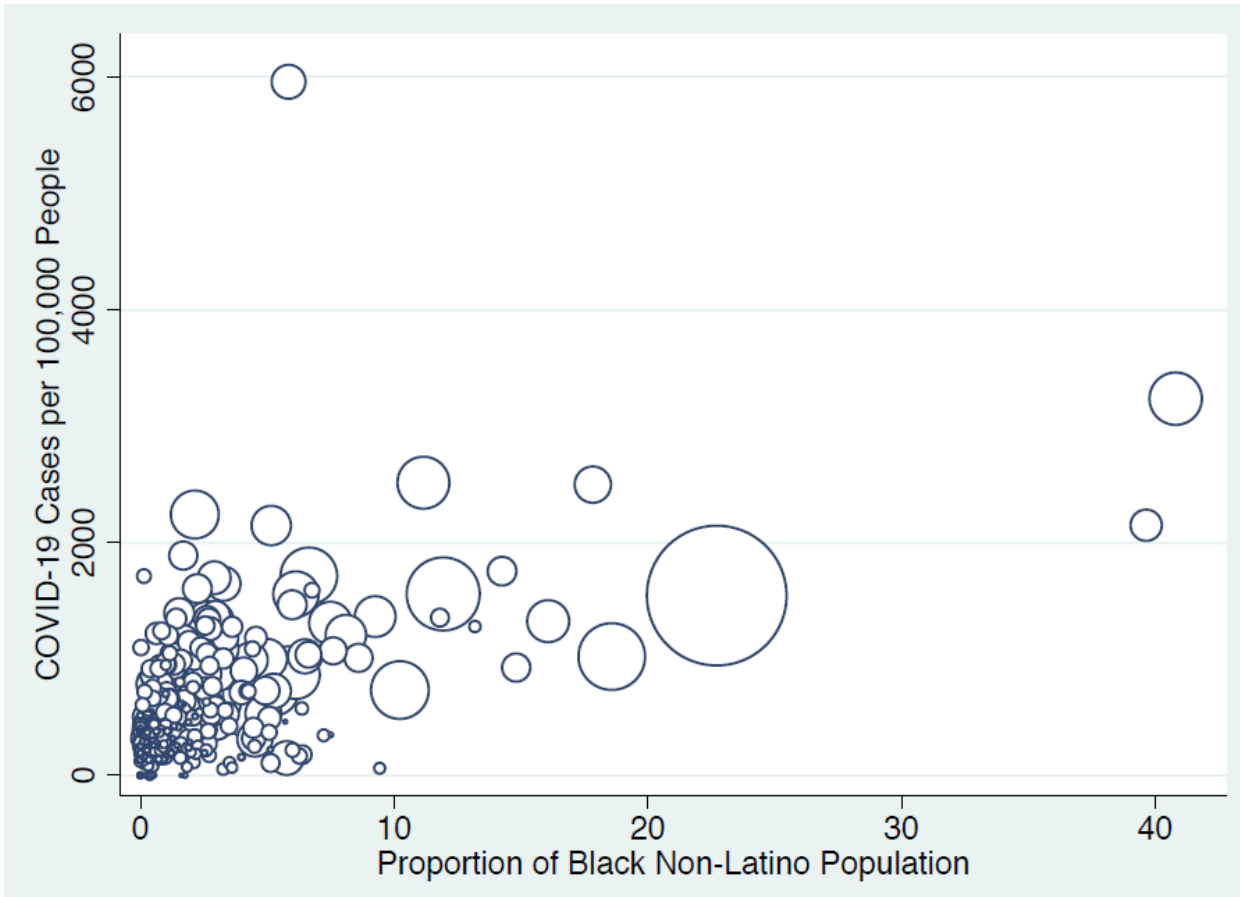


**Supplemental Exhibit 1.** Characteristics of Cities/Towns in Massachusetts by Proportion Black or Latino Population.

Characteristics	% Black Non-Latino Population			% Latino Population		
	Bottom Quartile	Top Quartile	p-value	Bottom Quartile	Top Quartile	p-value
<b>Demographic variables</b>						
Total Population (mean, standard deviation)	12,264 (7,516)	178,415 (239,038)	0.002	11,447 (5,978)	179,388 (240,985)	0.001
Age (mean, standard deviation)	45.9 (3.4)	37.0 (5.4)	<0.001	45.9 (4.3)	36.4 (4.7)	<0.001
Proportion above age 60y (%)	26.6	20.2	<0.001	26.8	19.5	<0.001
Gender (% male)	48.8	48.6	0.559	48.9	48.6	0.581
Race/Ethnicity (%)						
Latino	2.1	15.3	<0.001	1.1	18.7	<0.001
Black (non-Latino)	0.2	11.1	<0.001	1.0	10.5	<0.001
White (non-Latino)	93.5	61.7	<0.001	94.2	60.2	<0.001
Other (non-Latino)	4.2	11.9	<0.001	3.9	10.6	<0.001
No. of persons per household (mean, S.D.)	2.6 (0.2)	2.5 (0.2)	0.014	2.6 (0.3)	2.5 (0.2)	0.027
Foreign-born Non-citizens (%)	1.9	10.7	<0.001	1.8	10.8	<0.001
<b>Economic and occupational variables</b>						
Education level (% <HS education)	5.1	12.2	<0.001	5.1	13.5	<0.001
Median household income (\$)	103,210	73,506	<0.001	99,334	67,550	<0.001
Occupation in Essential Services (%)	38.4	42.5	0.102	39.5	44.1	0.068
Food and services Preparation	4.5	6.2	<0.001	4.5	6.3	<0.001
Construction and extraction services	4.7	4.3	0.383	5.3	4.3	<0.001
Installation/maintenance & repair services	2.6	2.0	0.013	2.7	2.0	0.003
Material moving Occupation	2.1	2.7	0.048	2.3	3.0	0.059
Production services	3.6	4.2	0.319	3.6	5.0	0.046
Transportation services	2.8	3.1	0.371	2.7	3.4	0.089
Building/grounds/maintenance services	2.6	3.9	0.002	2.8	4.2	0.002
Healthcare practitioners & technical services	2.0	1.9	0.643	1.8	1.9	0.641
Healthcare support Services	2.5	4.2	0.002	2.7	4.6	0.001
Personal care and Service occupation	2.5	3.2	0.001	2.6	3.2	0.002
Protective services	2.2	2.1	0.690	2.3	2.1	0.160

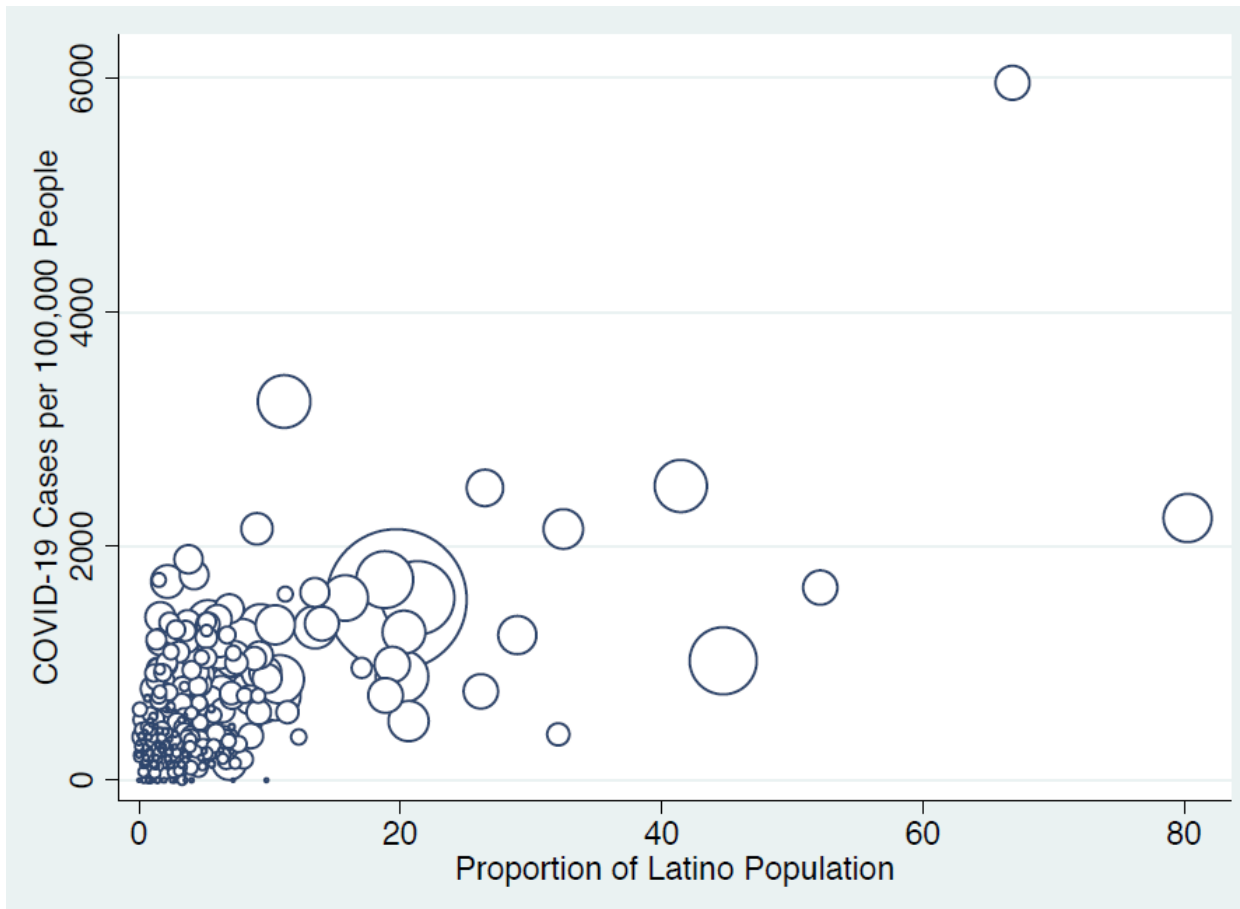
Source: Authors' analysis of Massachusetts Department of Public Health Data 2020 and American Community Survey 2018. Notes: N/A.

**Supplemental Exhibit 2.** Proportion Black non-Latino Population and Number of COVID-19 Cases per 100,000 Population Across Massachusetts Cities and Towns.



Source: Authors' analysis of Massachusetts Department of Public Health Data 2020 and American Community Survey 2018. Notes: Figure shows the relationship between proportion Black non-Latinos residing in a town or city and COVID-19 case rates. The size of each circle reflects the total population of each town or city.

**Supplemental Exhibit 3.** Proportion Latino Population and Number of COVID-19 Cases per 100,000 Population Across Massachusetts Cities and Towns.



Source: Authors' analysis of Massachusetts Department of Public Health Data 2020 and American Community Survey 2018. Notes: Figure shows the relationship between proportion of Latinos residing in a town or city and COVID-19 case rates. The size of each circle reflects the total population of each town or city.

**Supplemental Exhibit 4.** Association of Race/Ethnicity, Demographic, Economic, and Occupational Factors with COVID-19 Case Rates across Massachusetts Cities and Towns.

City/town variable	Increases in cases per 100,000 people						
	Univariate Analyses <sup>a</sup>		Multivariable Analysis <sup>a</sup>		Multivariable Analysis using Z-scores <sup>b</sup>		P-value <sup>d</sup>
	Estimate	95% CI <sup>c</sup>	Estimate	95% CI	Estimate	95% CI	
Proportion of Black non-Latino Population	312.3	241.9 to 383.0	307.2	219.6 to 394.7	127.2	90.9 to 163.4	<0.001
Proportion of Latino Population	258.2	217.0 to 300.3	50.4	-19.0 to 119.8	40.6	-15.3 to 96.5	0.154
Proportion of Other Non-Latino Population	86.5	7.2 to 169.9	-216.4	-321.4 to -111.3	-122.4	-181.8 to -63.0	<0.001
City/town population size	11.5	7.9 to 15.2	-4.0	-7.8 to -0.24	-16.8	-32.6 to -1.0	0.037
Age, Proportion age >60 years	-546.6	-666.6 to -426.4	163.9	37.8 to 290.1	122.5	28.2 to 216.8	0.011
Average Household size (per 1 person increase)	669.4	344.0 to 994.8	886.2	494.3 to 1278.1	236.4	131.9 to 340.9	<0.001
Proportion with < HS education	611.9	524.0 to 699.8	57.7	-115.1 to 230.5	27.1	-54.0 to 108.1	0.512
Median income	-87.1	-109.6 to 64.6	-23.7	-69.8 to 22.7	-70.4	-208.8 to 67.9	0.317
Proportion of essential workers	247.1	185.3 to 309.0	0.23	-120.2 to 125.6	2.8	-124.3 to 129.9	0.966
Proportion of foreign-born non-citizens	749.3	658.8 to 839.8	791.7	587.9 to 851.6	310.4	253.5 to 367.2	<0.001

Source: Authors' analysis of Massachusetts Department of Public Health Data 2020 and American Community Survey 2018.

**Notes:**

a) For univariate and multivariate analyses

-changes in case rates reflect a per 10 percentage point increase in the following variables: Proportion Black, Latino, Other non-Latino population, age over 60 years, people with less than a high school education, essential workers, and foreign-born non-citizens

-For city/town population size, changes in case rates reflect a per 10,000 people increase

-For average household size, changes in case rates reflect a per 1 person increase

-For median income, changes in case rates reflect a per \$10,000 increase

b) Adjusted z-scores reflect changes in case rates per 1 standard deviation increase for all town/city variables

c) P-values for all univariate analyses were <0.001

d) Adjusted p-values are for both the multivariate analysis and the adjusted Z-score analysis