

Supplemental Table 1. Description of the five Chinese cities participated in the Tobacco Free Cities (TFC) initiative and city-specific activities implemented from 2015 to 2018

City, (Population, GDP)	Smoke-Free Policy Goal (n or adoption date)	Policy Inspection Frequency	# of Media Mentions	Health Education/Mass Media Campaigns	Cessation Interventions
Chengdu (16 million, 1.39 trillion yuan)	SF government worksites (n=21) SF business worksites (n=15)	Every 2 months	110	WNTD and CNY mass media campaigns; PSAs on subways; city educational events	Cessation training for healthcare workers
Chongqing (30.75 million, 1.95 trillion yuan)	SF government worksites (n=1500) SF business worksites (n=2)	Twice per year	132	WNTD and CNY mass media campaigns; PSAs on TV and outdoor media outlets WNTD and CNY mass media campaigns; PSAs on subways; city educational websites; knowledge competitions via WeChat	Cessation counseling at two large businesses
Wuhan (10.89 million, 1.34 trillion yuan)	SF government worksites (n=106) SF business worksites (190) SF campus (n=38)	Monthly	102	WNTD and CNY mass media campaigns; PSAs on subways; city educational websites; knowledge competitions via WeChat	Citywide cessation completion; cessation hotline
Xi'an (9.06 million, 746.69 billion)	SF public places (August 2018); effective November 2018 * SF business (n=65) SF homes (n=2200) SF government worksites (n=33)	Quarterly	263	WNTD and CNY mass media campaigns; PSAs on subways; citywide "no butts fall to the ground, Xian is beautiful" campaign	Free cessation clinics; citywide cessation competition
Xiamen (4.1 million, 435 billion yuan)	SF business worksites (n=86) SF scenery districts, including a UNESCO site(n=3)	Twice per year	116	WNTD and CNY mass media campaigns; SF business awards ceremonies	Cessation services provided to SF government and business workers

Abbreviations: World No Tobacco Day (WNTD); Chinese New Year (CNY); Public Service Announcements (PSA)

* Xi'an implemented their city-wide smoke-free law after the Wave 2 survey was conducted

Supplemental Table 2. Sample size, response rate, and survey date for each of the five Chinese cities participated in the Tobacco Free Cities (TFC) initiative, 2015 and 2018

Locations	Number of Interviews			Response Rate ¹	Survey Date
	Overall	Male	Female		
Year 2015 (N=10,184)					
Chengdu	1,946	903	1,043	89.6%	Feb 2016 - Mar 2016
Chongqing	1,852	843	1,009	79.8%	Oct 2015 - Nov 2015
Wuhan	2,163	1,018	1,145	98.3%	Oct 2015 - Dec 2015
Xiamen	2,174	1,055	1,119	92.5%	Oct 2015 - Jan 2016
Xi'an	2,049	962	1,087	89.4%	Nov 2015 - Feb 2016
2018 (N=10,233)					
Chengdu	1,914	876	1,038	93.5%	Feb 2018 - April 2018
Chongqing	1,829	837	992	90.8%	Sep 2017 - Nov 2017
Wuhan	2,251	1,158	1,093	97.8%	Dec 2017 - Jan 2018
Xiamen	2,116	1,121	995	89.7%	April 2018 - May 2018
Xi'an	2,123	1,092	1,031	87.2%	June 2018 - July 2018

¹ Overall response rate is a product of household response rate and individual response rate

Supplemental Table 3. Demographic characteristics of adult urban residents in all five Chinese cities participated in the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Demographic Characteristics	2015 (N=10,184)		2018 (N=10,233)	
	n	%	n	%
Sex				
Male	4781	51.58	4897	50.75
Female	5403	48.42	5336	49.25
Age (Years)				
15-24	940	18.97	840	20.37
25-44	4222	40.84	4124	39.44
45-64	3354	29.73	3539	29.72
65 and above	1668	10.45	1730	10.47
Education Level				
Primary school completed or below	1626	10.86	1325	9.39
Junior high school completed	2317	22.12	2265	20.51
Senior high school completed	2825	30.08	2821	28.15
College degree or above	3304	36.95	3759	41.95
Occupation				
Government employee, teacher, healthcare provider	972	10.69	1080	11.47
Factory, business, service industry employee	4358	45.63	3795	37.84
Not in the labor force ¹	4773	43.68	5231	50.69
Current smoking status				
Yes	2275	22.75	2339	23.36
No	7909	77.25	7885	76.64

¹ Respondents who were not in the labor force included students, homemakers, retired and unemployed residents either able or unable to work

Supplemental Table 4. Subgroup analysis by gender: adjusted ORs¹ for SHS exposure in indoor workplaces in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Male		Female	
	OR	95% CI	OR	95% CI
<i>Year</i>				
2015	Ref.		Ref.	
2018	0.72	0.56 - 0.91	0.70	0.55 - 0.90
<i>Age Group</i>				
15-24	1.52	0.59 - 3.90	1.92	0.44 - 8.44
25-34	1.40	0.57 - 3.44	1.73	0.41 - 7.40
35-64	1.70	0.71 - 4.08	1.83	0.42 - 7.96
65 and above	Ref.		Ref.	
<i>Education</i>				
Primary school completed or below	Ref.		Ref.	
Junior high school completed	0.80	0.46 - 1.38	0.62	0.40 - 0.95
Senior high school completed	0.85	0.50 - 1.44	0.51	0.34 - 0.77
College degree or above	0.70	0.41 - 1.18	0.40	0.26 - 0.63
<i>Occupation</i>				
Government employee, teacher, healthcare provider	Ref.		Ref.	
Factory, business, service industry employee	1.79	1.45 - 2.21	1.33	1.03 - 1.71
<i>Current smoking status</i>				
Yes	2.23	1.84 - 2.71	2.14	1.18 - 3.87
No	Ref.		Ref.	

¹ Controlling gender, age, education, occupation, and current smoking status

² Respondents who were not in the labor force included students, homemakers, retired and unemployed residents either able or unable to work

Supplemental Table 5. Subgroup analysis by gender: adjusted ORs¹ for SHS exposure in the home in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Male		Female	
	OR	95% CI	OR	95% CI
<i>Year</i>				
2015	Ref.		Ref.	
2018	0.57	0.46 - 0.71	0.68	0.55 - 0.84
<i>Age Group</i>				
15-24	1.15	0.83 - 1.59	1.16	0.85 - 1.56
25-34	1.21	0.93 - 1.57	1.44	1.11 - 1.86
35-64	1.33	1.01 - 1.75	1.39	1.09 - 1.76
65 and above	Ref.		Ref.	
<i>Education</i>				
Primary school completed or below	Ref.		Ref.	
Junior high school completed	1.06	0.75 - 1.51	0.99	0.77 - 1.27
Senior high school completed	1.01	0.72 - 1.41	0.87	0.68 - 1.13
College degree or above	0.97	0.69 - 1.36	0.88	0.67 - 1.16
<i>Occupation</i>				
Government employee, teacher, healthcare provider	0.95	0.73 - 1.23	1.07	0.84 - 1.36
Factory, business, service industry employee	1.19	0.97 - 1.47	1.15	0.97 - 1.37
Not in the labor force ²	Ref.		Ref.	
<i>Current smoking status</i>				
Yes	1.84	1.54 - 2.19	2.64	1.76 - 3.96
No	Ref.		Ref.	

¹ Controlling gender, age, education, occupation, and current smoking status

² Respondents who were not in the labor force included students, homemakers, retired and unemployed residents either able or unable to work

Supplemental Table 6. Subgroup analysis by gender: adjusted ORs¹ for SHS exposure in the restaurant in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Male		Female	
	OR	95% CI	OR	95% CI
<i>Year</i>				
2015	Ref.		Ref.	
2018	0.82	0.63 - 1.05	0.72	0.59 - 0.88
<i>Age Group</i>				
15-24	2.89	2.13 - 3.93	1.44	1.09 - 1.91
25-34	1.00	0.76 - 1.30	1.35	1.08 - 1.68
35-64	0.91	0.73 - 1.14	1.43	1.20 - 1.71
65 and above	Ref.		Ref.	
<i>Education</i>				
Primary school completed or below	Ref.		Ref.	
Junior high school completed	0.68	0.53 - 0.87	0.91	0.75 - 1.11
Senior high school completed	0.68	0.54 - 0.85	0.85	0.69 - 1.05
College degree or above	0.49	0.37 - 0.64	0.56	0.45 - 0.70
<i>Occupation</i>				
Government employee, teacher, healthcare provider	0.87	0.64 - 1.18	1.23	0.99 - 1.52
Factory, business, service industry employee	0.92	0.73 - 1.15	1.09	0.86 - 1.39
Not in the labor force force ^	Ref.		Ref.	
<i>Current smoking status</i>				
Yes	13.53	11.12 - 15.46	9.87	6.55 - 14.89
No	Ref.		Ref.	

¹ Controlling gender, age, education, occupation, and current smoking status

² Respondents who were not in the labor force included students, homemakers, retired and unemployed residents either able or unable to work

Supplemental Table 7. Subgroup analysis by current smoking status: adjusted ORs¹ for SHS exposure in the workplace in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Current smoker		Current non-smoker	
	OR	95% CI	OR	95% CI
<i>Year</i>				
2015	Ref.		Ref.	
2018	0.65	0.47 - 0.90	0.73	0.58 - 0.91
<i>Gender</i>				
Male	1.42	0.75 - 2.70	1.54	1.33 - 1.79
Female	Ref.		Ref.	
<i>Age Group</i>				
15-24	0.96	0.28 - 3.29	2.09	0.70 - 6.30
25-34	1.16	0.36 - 3.76	1.82	0.62 - 5.35
35-64	1.84	0.59 - 5.72	1.80	0.62 - 5.23
65 and above	Ref.		Ref.	
<i>Education</i>				
Primary school completed or below	Ref.		Ref.	
Junior high school completed	0.89	0.42 - 1.89	0.60	0.40 - 0.89
Senior high school completed	0.83	0.39 - 1.77	0.57	0.39 - 0.82
College degree or above	0.73	0.34 - 1.60	0.44	0.29 - 0.66
<i>Occupation</i>				
Government employee, teacher, healthcare provider	Ref.		Ref.	
Factory, business, service industry employee	1.73	1.20 - 2.50	1.52	1.22 - 1.89

¹ Controlling gender, age, education, occupation, and current smoking status

Supplemental Table 8. Subgroup analysis by current smoking status: adjusted ORs¹ for SHS exposure in the home in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Current smoker		Current non-smoker	
	OR	95% CI	OR	95% CI
<i>Year</i>				
2015	Ref.		Ref.	
2018	0.57	0.42 - 0.79	0.63	0.53 - 0.76
<i>Gender</i>				
Male	0.90	0.61 - 1.33	1.26	1.12 - 1.42
Female	Ref.		Ref.	
<i>Age Group</i>				
15-24	1.47	0.84 - 2.59	1.10	0.86 - 1.41
25-34	1.33	0.84 - 2.10	1.32	1.08 - 1.62
35-64	1.81	1.17 - 2.80	1.25	1.02 - 1.54
65 and above	Ref.		Ref.	
<i>Education</i>				
Primary school completed or below	Ref.		Ref.	
Junior high school completed	0.75	0.43 - 1.29	1.11	0.88 - 1.40
Senior high school completed	0.73	0.43 - 1.24	0.99	0.78 - 1.26
College degree or above	0.79	0.45 - 1.38	0.95	0.74 - 1.22
<i>Occupation</i>				
Government employee, teacher, healthcare provider	0.66	0.45 - 0.99	1.10	0.89 - 1.36
Factory, business, service industry employee	1.11	0.83 - 1.49	1.18	1.02 - 1.37
Not in the labor force ²	Ref.		Ref.	

¹ Controlling gender, age, education, occupation, and current smoking status

² Respondents who were not in the labor force included students, homemakers, retired and unemployed residents either able or unable to work

Supplemental Table 9. Subgroup analysis by current smoking status: adjusted ORs¹ for SHS exposure in the restaurant in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Current smoker		Current non-smoker	
	OR	95% CI	OR	95% CI
<i>Year</i>				
2015	Ref.		Ref.	
2018	0.86	0.65 - 1.13	0.74	0.60 - 0.90
<i>Gender</i>				
Male	0.73	0.48 - 1.10	0.58	0.50 - 0.67
Female	Ref.		Ref.	
<i>Age Group</i>				
15-24	1.72	1.06 - 2.78	2.12	1.67 - 2.69
25-34	1.03	0.72 - 1.46	1.31	1.07 - 1.59
35-64	1.07	0.76 - 1.50	1.23	1.05 - 1.44
65 and above	Ref.		Ref.	
<i>Education</i>				
Primary school completed or below	Ref.		Ref.	
Junior high school completed	0.57	0.41 - 0.81	0.87	0.72 - 1.05
Senior high school completed	0.56	0.40 - 0.78	0.82	0.67 - 0.99
College degree or above	0.37	0.25 - 0.55	0.55	0.45 - 0.69
<i>Occupation</i>				
Government employee, teacher, healthcare provider	1.08	0.82 - 1.42	1.18	0.98 - 1.42
Factory, business, service industry employee	1.13	0.82 - 1.57	1.19	0.99 - 1.48
Not in the labor force ²	Ref.		Ref.	

¹ Controlling gender, age, education, occupation, and current smoking status

² Respondents who were not in the labor force included students, homemakers, retired and unemployed residents either able or unable to work

Supplemental Table 10. Adjusted ORs¹ for SHS exposure in the workplace by city and in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Chengdu		Chongqing		Wuhan		Xiamen		Xi'an		Overall	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
<i>Year</i>												
2015	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
2018	0.82	0.54 - 1.26	0.73	0.45 - 1.19	0.60	0.39 - 0.92	0.61	0.38 - 0.96	0.73	0.45 - 1.18	0.71	0.58 - 0.88
<i>Gender</i>												
Male	1.64	1.26 - 2.14	1.53	1.09 - 2.16	1.36	0.98 - 1.88	1.64	1.19 - 2.26	1.61	1.17 - 2.22	1.53	1.32 - 1.76
Female	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
<i>Age Group</i>												
15-24	1.42	0.27 - 7.51	3.37	0.73 - 15.49	0.63	0.15 - 2.72	1.05	0.30 - 3.66	2.69	0.42 - 17.09	1.77	0.79 - 3.98
25-34	0.98	0.19 - 5.13	3.03	0.68 - 13.58	0.92	0.20 - 4.14	1.21	0.39 - 3.77	2.27	0.36 - 14.14	1.62	0.73 - 3.60
35-64	1.23	0.23 - 6.57	2.47	0.54 - 11.24	1.06	0.27 - 4.13	1.79	0.63 - 5.14	2.69	0.45 - 16.20	1.85	0.84 - 4.07
65 and above	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
<i>Education</i>												
Primary school completed	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Junior high school completed	0.33	0.13 - 0.81	0.66	0.31 - 1.43	0.89	0.33 - 2.38	0.64	0.43 - 0.95	2.11	0.70 - 6.35	0.65	0.45 - 0.95
Senior high school completed	0.19	0.08 - 0.43	0.58	0.26 - 1.29	0.94	0.31 - 2.81	0.90	0.59 - 1.37	1.46	0.53 - 4.03	0.62	0.44 - 0.89
College degree or above	0.17	0.07 - 0.41	0.47	0.20 - 1.10	0.73	0.25 - 2.11	0.58	0.34 - 1.01	1.17	0.43 - 3.15	0.50	0.34 - 0.74
<i>Occupation</i>												
Government employee, teacher, healthcare provider	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Factory, business, service industry employee	1.64	1.12 - 2.41	1.66	1.18 - 2.35	1.50	1.05 - 2.13	1.32	0.83 - 2.09	1.53	1.09 - 2.13	1.56	1.32 - 1.85
<i>Current smoking status</i>												
Yes	2.15	1.51 - 3.06	1.87	1.20 - 2.92	3.35	2.30 - 4.86	2.20	1.57 - 3.10	2.00	1.30 - 3.10	2.21	1.84 - 2.65
No	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	

¹Controlling gender, age, education, occupation, and current smoking status

Supplemental Table 11. Adjusted ORs¹ for SHS exposure in the home by city and in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Chengdu		Chongqing		Wuhan		Xiamen		Xi'an		Overall	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
<i>Year</i>												
2015	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
2018	0.80	0.54 - 1.20	0.65	0.45 - 0.95	0.86	0.54 - 1.40	0.73	0.42 - 1.28	0.78	0.54 - 1.13	0.76	0.63 - 0.93
<i>Gender</i>												
Male	0.50	0.38 - 0.66	0.61	0.45 - 0.81	0.54	0.33 - 0.90	0.62	0.47 - 0.81	0.67	0.53 - 0.83	0.59	0.51 - 0.68
Female	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
<i>Age Group</i>												
15-24	1.71	1.09 - 2.68	1.15	0.76 - 1.76	1.91	1.15 - 3.17	3.03	2.02 - 4.56	3.27	2.13 - 5.02	2.06	1.67 - 2.55
25-34	1.20	0.83 - 1.73	1.00	0.73 - 1.36	1.00	0.65 - 1.53	2.11	1.43 - 3.11	1.37	0.90 - 2.08	1.25	1.04 - 1.50
35-64	1.20	0.90 - 1.59	1.10	0.81 - 1.49	0.94	0.71 - 1.23	1.50	1.10 - 2.05	1.46	1.07 - 1.99	1.21	1.05 - 1.40
65 and above	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
<i>Education</i>												
Primary school completed	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Junior high school completed	0.85	0.59 - 1.23	1.00	0.75 - 1.34	1.27	0.86 - 1.85	0.37	0.28 - 0.50	0.80	0.55 - 1.19	0.82	0.69 - 0.96
Senior high school completed	0.72	0.50 - 1.04	1.05	0.80 - 1.38	1.18	0.84 - 1.64	0.35	0.24 - 0.52	0.74	0.49 - 1.13	0.77	0.65 - 0.91
College degree or above	0.55	0.38 - 0.79	0.77	0.55 - 1.08	0.62	0.41 - 0.94	0.21	0.13 - 0.33	0.51	0.33 - 0.80	0.52	0.43 - 0.63
<i>Occupation</i>												
Government employee, teacher, healthcare provider	0.94	0.58 - 1.52	0.94	0.62 - 1.42	0.82	0.55 - 1.23	0.94	0.63 - 1.41	0.70	0.47 - 1.05	0.86	0.71 - 1.04
Factory, business, service industry employee	0.98	0.73 - 1.31	1.01	0.79 - 1.30	1.12	0.81 - 1.55	0.83	0.61 - 1.12	0.96	0.70 - 1.31	0.98	0.86 - 1.13
Not in the labor force ²	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
<i>Current smoking status</i>												
Yes	17.36	12.69 - 23.77	10.34	7.55 - 14.15	11.28	7.1 - 17.92	8.68	6.19 - 12.18	10.83	8.06 - 14.57	11.27	9.62 - 13.20
No	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	

¹ Controlling gender, age, education, occupation, and current smoking status² Respondents who were not in the labor force included students, homemakers, retired and unemployed residents either able or unable to work

Supplemental Table 12. Adjusted ORs¹ for SHS exposure in the restaurant by city and in all five Chinese cities participating the Tobacco Free Cities (TFC) initiative in 2015 and 2018

Indicators	Chengdu		Chongqing		Wuhan		Xiamen		Xi'an		Overall	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
<i>Year</i>												
2015	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
2018	0.65	0.42 - 0.98	0.55	0.37 - 0.80	0.76	0.51 - 1.15	0.62	0.45 - 0.86	0.60	0.40 - 0.88	0.63	0.52 - 0.75
<i>Gender</i>												
Male	1.09	0.87 - 1.36	1.21	0.96 - 1.53	1.14	0.91 - 1.41	1.83	1.28 - 2.62	1.31	1.03 - 1.68	1.24	1.11 - 1.38
Female	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
<i>Age Group</i>												
15-24	1.33	0.78 - 2.27	1.10	0.69 - 1.75	1.18	0.77 - 1.81	1.96	1.20 - 3.21	1.42	0.92 - 2.22	1.15	0.91 - 1.45
25-34	1.04	0.68 - 1.60	1.69	1.14 - 2.50	1.37	0.97 - 1.94	2.11	1.26 - 3.53	1.51	1.08 - 2.11	1.31	1.08 - 1.59
35-64	1.18	0.78 - 1.78	1.54	0.98 - 2.42	1.51	1.06 - 2.14	1.56	0.97 - 2.49	1.33	0.91 - 1.94	1.35	1.10 - 1.65
65 and above	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
<i>Education</i>												
Primary school completed	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Junior high school completed	1.05	0.68 - 1.64	0.83	0.55 - 1.26	1.18	0.65 - 2.18	1.06	0.74 - 1.52	1.50	0.87 - 2.58	1.02	0.82 - 1.26
Senior high school completed	1.01	0.61 - 1.65	0.74	0.49 - 1.14	1.37	0.78 - 2.40	0.97	0.60 - 1.57	1.06	0.61 - 1.83	0.93	0.75 - 1.16
College degree or above	0.90	0.56 - 1.46	0.90	0.59 - 1.37	1.25	0.70 - 2.25	1.00	0.64 - 1.56	0.96	0.57 - 1.63	0.91	0.73 - 1.14
<i>Occupation</i>												
Government employee, teacher, healthcare provider	0.87	0.57 - 1.32	0.73	0.48 - 1.11	1.07	0.71 - 1.62	1.36	0.87 - 2.14	1.36	0.95 - 1.95	1.01	0.83 - 1.23
Factory, business, service industry employee	1.12	0.87 - 1.43	1.01	0.71 - 1.42	1.01	0.75 - 1.35	1.53	1.13 - 2.07	1.50	1.07 - 2.12	1.17	1.02 - 1.35
Not in the labor force ²	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
<i>Current smoking status</i>												
Yes	1.82	1.35 - 2.46	1.93	1.35 - 2.75	2.27	1.71 - 3.03	1.84	1.20 - 2.83	1.68	1.1 - 2.56	1.88	1.59 - 2.21
No	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	

¹ Controlling gender, age, education, occupation, and current smoking status² Respondents who were not in the labor force included students, homemakers, retired and unemployed residents either able or unable to work