

# Smoke-Free Ordinances in Texas Worksites, Restaurants, and Bars, 2000–2007

Phyllis M. Gingiss, DrPH, Melynda Boerm, MEd, Philip Huang, MD, MPH, Laura Hermer, JD, LLM

**Background:** Policies to protect citizens from secondhand smoke (SHS) exposure are widely noted to bring numerous economic and health benefits and contribute to changes in public norms. In 2000, the Texas Department of State Health Services established a database to track changes in the number and content of municipal secondhand smoke ordinances. This study utilizes that data to describe existing municipal ordinances; identify changes in population coverage across worksites, restaurants, and bars; and examine disparities in coverage associated with race/ethnicity.

**Methods:** Ordinance features are examined in five settings: municipal worksites, private-sector worksites, restaurants, bars in restaurants, and bars not in restaurants. This descriptive, time-series study analyzes changes in smoke-free ordinance content and population coverage from 2000 to 2007.

**Results:** In 2000, no Texas municipal populations were covered by smoke-free ordinances in more than one study setting. By 2007, over 25% of the state's municipal population resided in cities with smoke-free ordinances in all five settings, and 40% were smoke-free in three or more settings. By 2007, over 50% of the municipal population had smoke-free worksite ordinance protections; 40% had smoke-free protections in private worksites, restaurants, and bars in restaurants; and over 25% were protected in bars not in restaurants. Populations in predominantly minority cities had more ordinance protection from SHS.

**Conclusions:** Changes in smoke-free ordinance provisions have been rapid in Texas cities of all sizes and locations. Evaluating whether these local gains can translate into continued support for further municipal and state SHS legislation will be important.

(Am J Prev Med 2009;36(2):91–95) © 2009 American Journal of Preventive Medicine

## Introduction

A long-established body of evidence exists about the negative health effects of secondhand smoke (SHS) exposure, beginning with the U.S. Surgeon General's report in 1972.<sup>1</sup> A recent U.S. Surgeon General's report<sup>2</sup> has reaffirmed and strengthened research conclusions that smoke-free policies to protect citizens from SHS exposure bring numerous economic and health benefits and are strong contributors to changes in public norms about the acceptability of tobacco use. Establishing and enforcing laws that require all workplaces and public places to be smoke-free is widely recognized as an important strategy for

protecting the public from exposure to the harmful effects of SHS.<sup>3–6</sup> For example, 24 states, Puerto Rico, and Washington DC have passed smoke-free laws that cover restaurants and bars, and four other states have smoke-free laws that cover restaurants but exempt stand-alone bars.<sup>7</sup> However, many state laws are currently limited. Twenty-three states received an F as their grade for smoke-free air by the American Lung Association.<sup>8</sup> Eighteen states have one third or less of their population covered by any smoke-free laws on the local or state levels.<sup>9</sup>

In the absence of strong state anti-smoking laws, it is necessary to look to municipalities for elimination of exposure to SHS. Local laws continue to be critical because they are currently more numerous, involve greater engagement of local citizens, generate widespread public education and debate during their passage, and create heightened awareness of health risks from SHS.<sup>2</sup> In response to this need for smoke-free laws and policies, two of the shared goals of the National Tobacco Control Program and the Texas Department of State Health Services (TDSHS)<sup>10–11</sup> are to (1) eliminate exposure to SHS, and (2) identify

From the Department of Health and Human Performance (Gingiss) and Health Network of Evaluation and Training Systems (Boerm), University of Houston, Houston, Texas; Travis County Health Department (Huang), Austin, Texas; and Institute for the Medical Humanities, University of Texas Medical Branch (Hermer), Galveston, Texas

Address correspondence and reprint requests to: Phyllis M. Gingiss, DrPH, Professor, Public Health Education, University of Houston, Department of Health and Human Performance, 3855 Holman Street, Houston TX 77204-6014. E-mail: pmgingiss@uh.edu.

The full text of this article is available via AJPM Online at [www.ajpm-online.net](http://www.ajpm-online.net); 1 unit of Category-1 CME credit is also available, with details on the website.

and eliminate disparities in coverage associated with race/ethnicity.

Examination of state laws in Texas indicates that few exist to limit public exposure to SHS. Legislation prohibits smoking in public places such as primary and secondary schools, elevators, theaters, movie houses, libraries, museums, hospitals, transit system buses, planes, and trains.<sup>12</sup> The Texas Education Code provides explicit mandates that no tobacco or tobacco products will be used or possessed on school property or at school-related events.<sup>13</sup> Through its licensing requirements, Texas also prohibits smoking in child care settings.<sup>14</sup> However, current state laws are not adequate to ensure a smoke-free state population.

In Texas, municipality is the term most frequently used to describe an incorporated city or town. Municipality is used to describe cities and towns throughout this report, with city as an alternate. The setting *municipal worksite* is used to describe local government worksites, such as city halls and police stations, as distinguished from worksites owned or operated by private entities such as businesses.

Since 2000, local ordinance change has been rapid in Texas municipalities. For example, during 2006–2007, 38 Texas municipalities passed new or amended municipal tobacco laws.<sup>15</sup> However, a count of the number of ordinances does not address the frequency and nature of public access to those laws. Therefore, the purposes of this study are to: (1) describe parameters and content of the database from which data will be extracted, (2) identify changes in population coverage by smoke-free ordinances for those living in incorporated municipalities from January 2000 through December 2007, and (3) examine tobacco disparities in coverage associated with race/ethnicity.

## Methods

### Database Description

The Texas Tobacco Prevention Initiative (TTPI), coordinated by TDSHS, was initiated in Year 2000 with funding allocated by the Texas Legislature from the Texas Tobacco Settlement. TTPI funded a system to monitor progress toward elimination of SHS exposure and tobacco disparities. The Texas Smoke-Free Ordinance Database has been developed and maintained continuously starting with ordinances in place in 2000. Protocols have been established to guide data collection, coding, and analyses. An accompanying website has been developed as a primary means for generating education and evaluation reports.<sup>15</sup> Provision also exists for data to be used for secondary analyses such as those utilized in this study.

### Database Organization and Content

Variables to be tracked were selected based on sources including a monograph published in 2000 by the National Cancer Institute on state and local legislative action to reduce tobacco use,<sup>16</sup> related reports,<sup>17–20</sup> and recommendations from TTPI administrators and staff. The ordinance

review protocol includes an ordinance analysis and coding for: (1) settings categories; (2) ratings of level of protection for each setting; (3) ordinance history (i.e., new versus amended, current versus repealed); and (4) additional components such as setting details for bars, restaurants, and municipal and private worksites; radius restrictions; and enforcement and penalty information.<sup>15</sup> Only parts 1–3 were used in this study.

### Database Coding and Extraction Guidelines

Tracked setting categories are municipal worksites, private worksites, restaurants, bars in restaurants, and bars not in restaurants. Each setting is scored on a five-point rating scale prior to entry in the database. Setting scale scores range from 5 (smoke-free) to 1 (no restrictions on smoking/protectations from SHS).<sup>15</sup> Only scores of 5 were extracted for this study.

A variable entitled *history* allows us to designate the ordinance edition currently in effect and reclassify previous editions to reflect modified or discontinued status. Thus, data are available for studies of change characteristics over time. Only ordinances existing in December of each year were extracted for this study.

Census data from 2000 were used to classify whether residents lived in predominantly minority (>50% minority) or nonminority (<50% minority) municipalities. Minority communities are defined as those in which  $\geq 50\%$  of the population is from non-Anglo racial groups according to the 2000 U.S. Census data.<sup>21</sup> Hispanics were included as a minority group.

### Population Studied

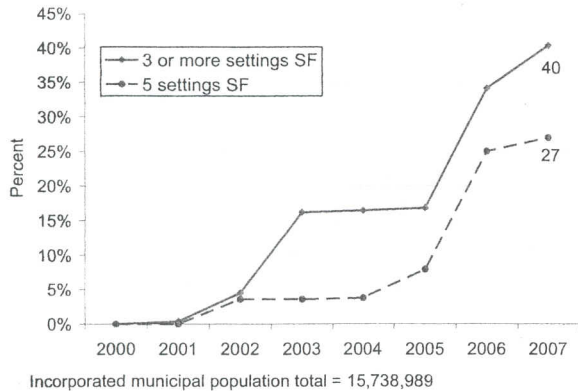
The database describes the populations living in all known Texas municipalities with ordinances in effect in 2000 and those living in municipalities with ordinances subsequently enacted or modified. By 2007, a total of 256 of the 1192 Texas incorporated municipalities had SHS ordinances (22%). According to the 2000 U.S. Census, 15,738,989 Texans lived in all Texas incorporated municipalities.<sup>21</sup> This is the study denominator. This municipal population contains 75% of the total Texas population of 20,851,820. Remaining Texans live in rural (20%) or unincorporated (4%) municipalities where jurisdictions do not exist to pass or enforce municipal ordinances. Numerators are Texans living in municipalities with SHS ordinances providing for one or more smoke-free settings.

### Data Analyses

Passage dates, cities with ordinances with smoke-free provisions in one or more settings, ordinance history, and 2000 census data pertaining to municipal population characteristics are reported in this study. Coding protocols in the original ordinance reviews for the database are used for these secondary analyses. Frequencies of population coverage at the end of each calendar year were analyzed.

## Results

In 2000, approximately 20% of the Texas municipal population of 15,738,989 lived in cities with smoke-free municipal worksites. Only a few cities ( $n=2$ ) had smoke-free provisions in any of the remaining four



**Figure 1.** Percentage of the Texas municipal population protected by smoke-free ordinances by number of settings

study settings. Each of these cities had populations of <5000.

The increase in population covered by smoke-free ordinances in all five settings and those covered by three or more settings is presented in Figure 1. No municipality had smoke-free coverage in all five study settings in January 2000. By 2007, cities with residents covered by smoke-free ordinance provisions in all five settings escalated to 27% of the Texas municipal population; 40% of that population was covered in three or more settings. Change was rapid. For example, between 2005 and 2007, population coverage increased by almost 2.5 times for cities with smoke-free ordinance provisions in all five settings (a 238% change). Passage of the Houston smoke-free ordinance in 2006, covering almost 2,000,000 residents, notably influenced this gain. Since 2006, a total of 38 new or amended ordinances have passed in nine of the 11 public health regions. Fourteen (37%) of those laws provide for smoke-free regulations in all settings, and 21 (55%) in three or more settings.

Figure 2 describes the changes in resident coverage in each study setting. In 2000, 20% of the state municipal population was protected by ordinance provisions in municipal worksites. By 2007, coverage in municipal worksites expanded to 58% of Texas municipal residents (a 190% increase). In the remaining four study settings, smoke-free laws existed only in two small municipalities with populations <5000 prior to 2000. By 2007, the percentage of Texas municipal population coverage had increased to 45% in restaurants, 41% in bars in restaurants, 40% in private worksites, and 27% in bars not in restaurants. Although the least frequently covered setting was bars not in restaurants, the positive trajectory of change was similar.

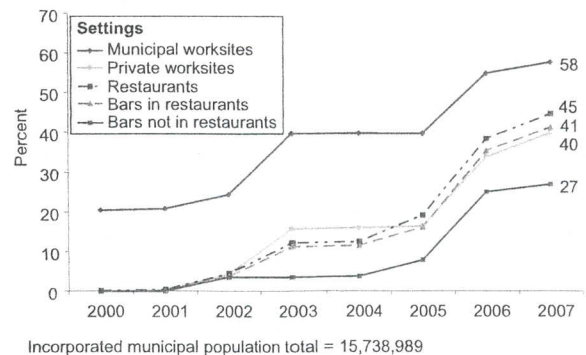
Annual changes in coverage of minority and nonminority residents in each of the five study settings are presented in Table 1. In 2000, residents of cities with a predominantly minority population (>50%) were

more frequently covered in each setting except for bars not in restaurants. By 2007, 19% of the Texas municipal population living in predominantly minority cities was covered by smoke-free laws in all five settings, compared to 7% from predominantly nonminority cities. Similarly, 31% of the population living in predominantly minority cities was covered by smoke-free laws in three or more settings, compared to only 10% from predominantly nonminority cities.

## Discussion

Change was rapid in the passage of smoke-free ordinances for Texas municipal residents between 2000 and 2007. During this period, those living in cities with smoke-free laws in all five settings moved from 0% to 27%. Percentage of population coverage in three or more settings moved from 0% in 2000 to 40% in 2007. The setting most frequently covered was municipal worksites. By 2007, over 50% of the Texas municipal population lived in cities that mandate smoke-free municipal worksites. Smoke-free ordinances in private worksites, restaurants, and bars in restaurants covered approximately two of every five Texans. Even in bars not in restaurants, the setting least likely to be protected, 25% of the Texas municipal population was protected by the end of 2007. Adopting cities were located across Texas and were of all sizes.

It has been posited that once a critical mass of 50% of possible adopters is reached, the next group of adopters is prone to follow.<sup>22</sup> The rapid, widespread progress made in Texas potentially may strengthen ordinance enforcement and sustainability in cities with existing ordinances. Progress also may reinforce and accelerate changes in public norms to increase local population protections from SHS,<sup>16</sup> facilitate adoption of comprehensive legislation at the state level,<sup>23</sup> and address concerns regarding pre-emption.<sup>18,24</sup> However, although Texas municipalities have made robust advancements in adoption of tobacco-control laws, in



**Figure 2.** Percentage of the Texas municipal population protected by smoke-free ordinances in each study setting

**Table 1.** Percentage of municipal residents covered by smoke-free laws according to minority population status<sup>a</sup>

Year	Municipal worksites		Private worksites		Restaurants		Bars in restaurants		Bars not in restaurants	
	≥50% minority	<50% minority	≥50% minority	<50% minority	≥50% minority	<50% minority	≥50% minority	<50% minority	≥50% minority	<50% minority
2000	8	13	0	0.02	0	0.16	0	0	0	0
2001	8	13	0	0.30	0	0.44	0	0	0	0
2002	11	13	4	1	4	1	4	0	4	0
2003	26	13	11	5	11	1	11	0	4	0
2004	26	13	11	5	11	1	11	0	4	0
2005	26	13	11	5	14	5	11	5	4	4
2006	40	15	27	7	29	9	27	8	19	6
2007	41	17	30	10	33	12	31	11	19	8

<sup>a</sup>Incorporated municipal population total=15,738,989

other states multiple factors such as repeal of state pre-emption of stronger local SHS ordinances may first be necessary for local progress to occur. One study of the diffusion of anti-smoking policies from U.S. cities to states presents evidence that results are nuanced and contingent on multiple aspects of legislative professionalism and the strength of state health advocates.<sup>25</sup> As local initiatives in Texas and other states continue to emerge, future research is needed to investigate patterns and conditions influencing the future diffusion of emerging tobacco-control laws vertically from local to state government and horizontally from community to community or state to state.

Passage of smoke-free ordinances by the largest Texas cities contributed to progress in Texas. The first large municipality in Texas to pass a smoke-free ordinance in all five study settings was El Paso in 2002. With a population of almost 600,000 (82% minority), the bold move of El Paso resounded positively across the state. By December 2007, all six Texas cities with >500,000 residents were smoke-free in at least two settings; five were smoke-free in at least three settings; and three were smoke-free in all settings.

Minority coverage patterns are attributable largely to the classification of five of the six largest Texas cities as predominantly minority, with an average minority composition of 64%. Whether disparities exist in enforcement of existing laws is not known, but residents of predominantly minority Texas cities are prone to be better protected by smoke-free laws than nonminorities.

Our early decision to separate ratings by public and private worksites and by bar categories allows us to identify variations in setting provisions that are often obscured through data aggregation within setting categories. Unfortunately, once classification and rating categories are established, they are often difficult and costly to modify as emerging areas of interest arise. The ongoing surveillance system has proven particularly useful since content modifications often occur or are challenged following initial passage of a smoke-free ordinance. It has been demonstrated how rapidly an

ordinance change can result in important health consequences.<sup>26</sup> Given these considerations, it is important that those developing such a tracking system provide for ongoing resource allocations for long-term system responsiveness and adaptation.

## Conclusion

Positive changes in population protections from SHS achieved through local laws and policies are described in this study. Progress since 2000 has been widespread and rapid, affecting those residing in cities of all sizes and locations. Follow-up studies over time will inform and clarify how current community-level gains will translate into local and state decisions to provide expanded public regulatory protections from SHS.

We would like to appreciatively acknowledge assistance from Texas state and regional tobacco administrators and staff, and the staff of the Health Network for Evaluation and Training Systems at the University of Houston for their tireless work throughout 9 years to develop and maintain the Texas Smoke-Free Ordinance Database.

This study was conducted as part of research sponsored by TDSHS under contract 2008-024743.

No financial disclosures were reported by the authors of this paper.

## References

1. U.S. Department of Health, Education and Welfare. The health consequences of smoking. A report of the Surgeon General: 1972. Washington: U.S. Department of Health, Education and Welfare, Public Health Service, Health Services and Mental Health Administration, 1972. DHEW Publication No. (HSM) 72-7516.
2. USDHHS. The health consequences of involuntary exposure to tobacco smoke: a report of the Surgeon General: 2006. Rockville MD. USDHHS, Public Health Service, Office of the Surgeon General.
3. Task Force on Community Preventive Services. Guide to community preventive services: tobacco use prevention and control. *Am J Prev Med* 2001;20:1-87.
4. National Center For Chronic Disease Prevention and Health Promotion. Secondhand smoke fact sheet, tobacco information and prevention source (TIPS). [www.cdc.gov](http://www.cdc.gov).

5. Pickett M, Schober S, Brody D, Curtin L, Gioio G. Smoke-free laws and secondhand smoke exposure in U.S. non-smoking adults, 1999–2002. *Tob Control* 2006;15:302–7.
6. McMullen K, Brownson R, Luke D, Chiriqui J. Strength of clean indoor air laws and smoking related outcomes in the USA. *Tob Control* 2005;14:43–8.
7. Campaign for Tobacco-Free Kids. Special report. Smoke-free laws: protecting our rights to breathe clean air, April 2008. [www.tobaccofreekids.org](http://www.tobaccofreekids.org).
8. American Lung Association. State of tobacco control, 2006. States listed by grade for smoke-free air. [lungaction.org](http://lungaction.org).
9. Americans for Nonsmokers' Rights Foundation. Percent of U.S. populations covered by 100% smoke-free air laws. July, 2008. [www.no-smoke.org](http://www.no-smoke.org).
10. CDC Office on Smoking and Health (OSH). National tobacco control program. [www.cdc.gov/tobacco](http://www.cdc.gov/tobacco).
11. Texas Department of State Health Services. Tobacco prevention and control. [www.dshs.state.tx.us](http://www.dshs.state.tx.us).
12. American Lung Association. SLATI state information: Texas. Texas Penal Code Ann. § 48.01 Restrictions enacted beginning 1975. [slati.lungusa.org](http://slati.lungusa.org).
13. Boerm M, Gingiss PM, Roberts-Gray C. Association of the presence of state and district health education policies with school tobacco prevention program practices. *J Sch Health* 2007;77:207–14.
14. Texas Department of State Health Services. State laws affecting tobacco use in Texas. Chapters 7465 and 747: minimum standards for child-care centers (Chapter 746) and homes (Chapter 747). <http://txshsord.coe.uh.edu>.
15. Texas Department of State Health Services. Texas smoke-free ordinance database. Health Network of Evaluation and Training Systems (HNETS), University of Houston: Houston Texas. [www.dshs.state.tx.us](http://www.dshs.state.tx.us).
16. National Cancer Institute. State and local legislative action to reduce tobacco use. Smoking and tobacco control monograph 11. 2000. NIH Pub. No. 00-4804.
17. Americans for Nonsmokers' Rights Foundation. Municipalities with 100% smokefree ordinances in all workplaces, restaurants, and bars. [www.no-smoke.org](http://www.no-smoke.org).
18. Chiriqui J, Frosh M, Brownson R, et al. Application of a rating system to State clean indoor air laws (USA). *Tob Control* 2002;11:26–34.
19. Fishman J, Harmony A, Knowles S, et al. State laws on tobacco control—United States, 1998. *MMWR* 1999;48(SS03):21–62.
20. Klonoff EA, Landrine H, Alcaraz R, et al. An instrument for assessing the quality of tobacco-control policies: the ACT-L scale. *Am J Prev Med* 1998;27:808–14.
21. Brewer C, Suchan T. U.S. Census Bureau, Census Special Reports, Series CENSUR/01-1, Mapping census 2000: the geography of U.S. diversity. Washington DC: U.S. Government Printing Office, 2001.
22. Rogers EM. Diffusion of innovations. New York: The Free Press, 1995.
23. Jacobson PD, Wasserman J. The implementation and enforcement of tobacco control laws: policy implications for activists and the industry. *J Health Polit Policy Law* 1999;24:567–98.
24. Lineberger L, O'Connor J, Blair NA, et al. Preemptive state smoke-free indoor air laws—United States, 1999–2004. *MMWR* 2005;54:250–3.
25. Shipan CR, Volden C. Bottom-up federalism: the diffusion of antismoking policies from U.S. cities to states. *Am J Pol Sci* 2006;50:825–83.
26. Sargent RP, Shepard RM, Glantz SA. Reduced incidence of admissions for myocardial infarction associated with public smoke ban: before and after study. *BMJ* 2004;328:977–80.

**Did you know?**

You can link from cited references to abstracts and full-text articles in other participating journals.

Visit [www.ajpm-online.net](http://www.ajpm-online.net) today to see what else is new online!