The Health Consequences of Smoking—50 Years of Progress

A Report of the Surgeon General

The Changing Public Image of Tobacco

The level of social acceptability of smoking was a major contributing factor in the rising prevalence of smoking up to the middle of the twentieth century, and then to the declining prevalence of smoking during the past 50 years (Cummings 2009). The importance of the changing public image of tobacco is discussed in greater detail in Chapter 2, as well as in previous Surgeon General's reports (U.S. Department of Health, Education, and Welfare [USDHEW] 1979; USDHHS 2000, 2006, 2012), and in several histories of tobacco control (Kluger 1996; Brandt 2007; Proctor 2011).

When the first Surgeon General's report was issued in 1964, up to 60–70% of young and middle-aged men were current smokers, and almost 50% of young women were smokers as well (see Chapter 13, "Patterns of Tobacco Use Among U.S. Youth, Young Adults, and Adults," Figure 13.9A and 13.9B). In the 1960s and even into the 1970s and 1980s, smoking was permitted nearly everywhere—smokers could light up at work; in hospitals, school buildings, bars, and restaurants; and on buses, trains, and airplanes. In the mid-1960s, the culture of smoking was so accepted that even the Surgeon General's Advisory Committee had ashtrays on the table, when they met to discuss the evidence that would eventually conclude that cigarette smoking is a cause of cancer and other life-threatening diseases (Figure 14.1).

For anyone growing up in the 1950s and 1960s, it was common to see doctors; athletes; radio, movie, and television celebrities; and popular cartoon characters advertising various cigarette brands (Figure 14.2). In fact, the marketing of cigarettes was so commonplace that the 1967 Federal Trade Commission (FTC) report commented "…that it is virtually impossible for Americans of almost any age to avoid cigarette advertising" (FTC 1967). In 1964, tobacco companies were major sponsors of popular television shows on all three television networks (Pollay 1994). These companies also arranged for product placements in movies, and other entertainment media, to increase the social image of smoking as popular, sophisticated, and classy (Mekemson and Glantz 2002; USDHHS 2012). As reviewed in previous reports, the tobacco companies have viewed the movie industry as an opportunity for advertising as far back as the Nickelodeon era when movies were silent, cost only a nickel, and ad slides played between reels (USDHHS 2012).

Although comprehensive historical tracking of portrayals of tobacco use in U.S. films is only available since 2002, a study of a random sample of major movies released between 1950–2002 found that smoking incidents declined from 10.7 incidents per hour in 1950 to a minimum of 4.9 in 1980–1982 but increased to 10.9 in 2002 (see USDHHS 2012, Figure 5.11). Despite declining

Figure 14.1   Meeting of the 1964 Surgeon General's Advisory Committee

Source: © Fred Ward–1964–www.AwardAgency.com

Figure 14.2   Cigarette advertisements

Source: Richard Pollay Tobacco Advertising Collection at Roswell Park Cancer Institute, Buffalo, NY.

tobacco use and increasing public understanding of the dangers of smoking in the real world, by 2002 smoking in movies had returned to levels observed in 1950, when smoking was nearly twice as prevalent in reality as it was in 2002 (Glantz et al. 2004). Beginning in 2002, Thumbs Up Thumbs Down!, a project of Breathe California of Sacramento-Emigrant Trails, has collected data on every film that was in the Top 10 theatrical box office for at least 1 week (which includes 83% of all films released in the United States and 96% of tickets sold) (Centers for Disease Control and Prevention [CDC] 2011c; Polansky et al. 2012). These data show that the number of tobacco incidents increased between 2002–2005, then declined from 2005–2010 and rebounded in 2011 and 2012 (Figure 14.3A).

Based on these data on tobacco incidents, population exposure to smoking incidents in movies can be estimated from box office attendance data (one impression equals one tobacco incident on screen viewed by one audience member one time) (CDC 2011c; Polansky et al. 2012). Theatrical impressions substantially underestimate total exposure because they include only in-theater exposure, not viewing on home media: broadcast, cable, satellite, and on-demand; on DVD and Blu-ray and on streaming media. Youth-rated movies delivered 20.4 billion impressions to domestic theatrical audiences in 2005

(Figure 14.3B). This exposure dropped by 73%, to 5.5 billion in 2010, then rebounded to 14.9 billion impressions in 2012. Of the youth-rated impressions that year, 99% (14.8 billion/14.9 billion) were delivered by PG-13 movies. While R-rated films on average include more smoking than PG-13 films, youth are much less likely to view R-rated films than PG-13 films; as a result, youth receive about three times the absolute exposure to smoking images from PG-13 films than R-rated films (Sargent et al. 2012). In 2012, impressions delivered by youth-rated movies comprised 56% (14.9 billion/26.5 billion) of all in-theater tobacco impressions (Polansky et al. 2012).

The 2012 Surgeon General's report concluded that there is a causal relationship between depictions of smoking in movies and initiation of smoking among young people (USDHHS 2012). The report based this conclusion on a large body of epidemiologic, behavioral, and experimental data. Subsequently, additional evidence shows a dose-response relationship between frequency of exposure to onscreen smoking images in movies and increased risk of smoking initiation (Dal Sin et al. 2011; Hanewinkel et al. 2012; Sargent et al. 2012; Morgenstern et al. 2011, 2013a, b). Additionally, based on the actual mix of films that adolescents viewed, it has been estimated that reducing in-theater exposures from a current median of about 275 annual exposures per adolescent from PG-13 movies

Figure 14.3A Total tobacco incidents in top-grossing U.S. movies, by Motion Picture Association of America rating
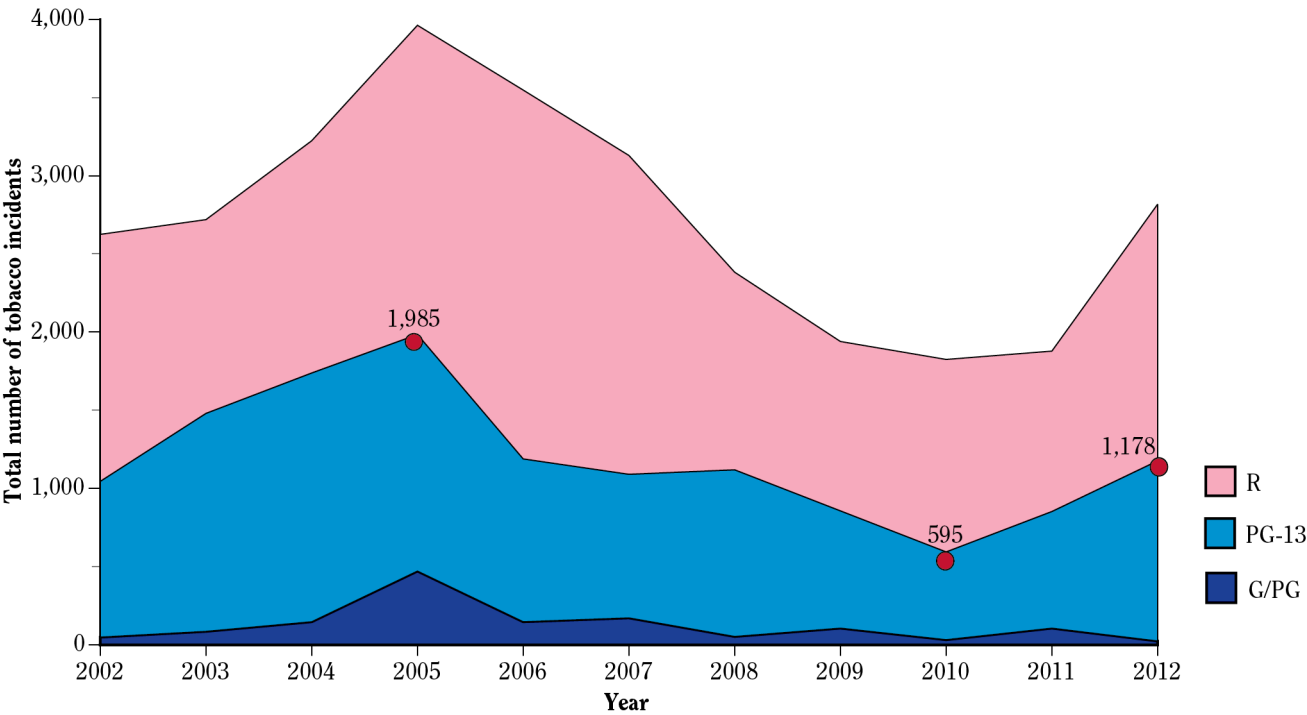
Figure 14.3B Tobacco impressions[a] delivered by top-grossing U.S. movies, by Motion Picture Association of America rating
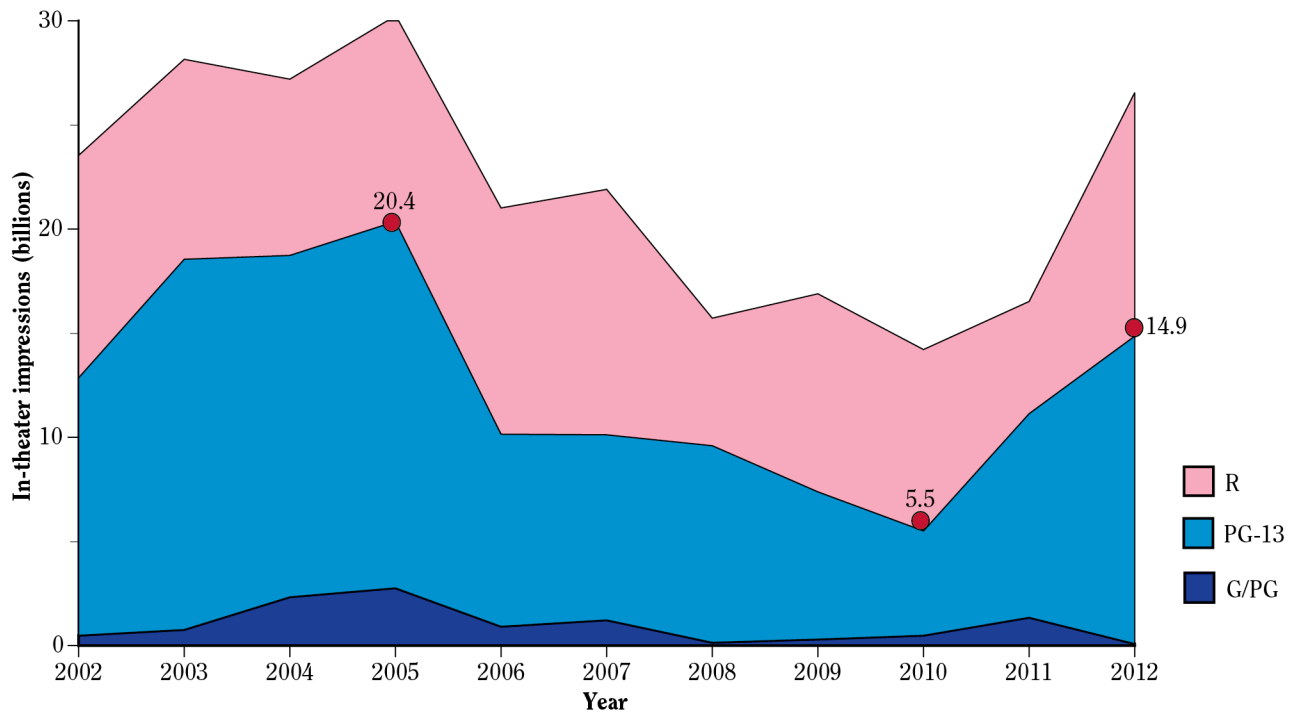
[a]One impression equals one tobacco use incident on screen viewed by one audience member.

down to approximately 10 or less would reduce the prevalence of adolescent smoking by 18% (95% CI, 14–21%) (Sargent et al. 2012).

Reports on the health risks of cigarette smoking were published with increasing frequency from the 1920s, but it was not until the 1950s and 1960s that medical research on smoking and cancer began to receive widespread media attention and the public began to recognize the adverse consequences (see Chapter 2) (Brandt 2007). In a 1966 Harris poll, only 40% recognized smoking as a major cause of lung cancer, 27% considered it a minor cause, and one-third were uncertain, saying that "science has not yet determined the relation between smoking and lung cancer" (Saad 2002). One explanation for people not believing that smoking was a health risk is the aggressive actions of the tobacco industry in suggesting scientific uncertainty and controversy about the findings (e.g., the "Frank Statement" on smoking issued in 1954 [Pollay Advertising Collection, n.d.]) (Brandt 2007). Over time, the public's perception of smoking gradually shifted from viewing smoking as a minor health concern to increasing acceptance that there are serious health risks associated with smoking. Smoking became increasingly less acceptable as a social practice (Sadd 1998). In 2001, Gallup asked this question again and found that 71% of Americans identified smoking as a major cause of cancer, 11% said it was a minor cause, and 16% were unsure (Sadd 2002).

The first large-scale national counter-advertising campaign to educate the public about the health risks of tobacco use was launched in 1967, under the Fairness Doctrine, which required broadcasters to provide free media time for antismoking public service announcements in response to cigarette commercials (Cummings 2002). Several studies have concluded that the antismoking messages mandated by the Fairness Doctrine resulted in a sharp reduction in smoking, which rebounded after the antismoking ads went off the air in 1971, as a result of the broadcast advertising ban (O'Keefe 1971; Warner 1989; Simonich 1991). Beginning in 2000, the American Legacy Foundation launched the truth® campaign, a broadcast counter-advertising campaign which primarily targeted teens and young adults (Healton 2001). This extensively evaluated campaign was found to have been successful in creating a high level of awareness of its messages among the intended target audience, and to have been effective in discouraging youth from smoking (Farrelly 2002; Richardson et al. 2010). Additional evidence in support of the effectiveness of paid counter-advertising campaigns comes from the sharp declines in cigarette consumption observed in localities that have invested heavily in mass media campaigns (Farrelly et al. 2008; NCI 2008).

Smokefree Policies

Today, the adverse health effects of exposure to secondhand smoke are well understood, and firm causal conclusions have been reached on its risk to the health of nonsmokers (USDHHS 2006). The growth of laws regulating smoking in public locations such as schools, health care facilities, public transportation, government buildings, elevators, and restaurants has been a clear indicator of the changing social acceptability of smoking. However, in 1964, there were no laws regulating smoking in public locations. Evidence regarding the health consequences of exposure to secondhand smoke emerged in the 1970s and 1980s. This evidence supported the start of the nonsmokers' rights movement, which became a critical force in tobacco control efforts. This movement was largely responsible for motivating policies limiting where people could smoke (USDHHS 2006). Currently, federal laws prohibit smoking on buses, trains, and domestic airline flights. The U.S. military continues to extend the number of tobacco-free areas. In 1994, the U.S. Congress outlawed smoking in most of the nation's public schools and federally funded programs that serve children, including Head Start centers, day care centers, and community health centers (USDHHS 2000). In 1993, the Joint Commission on the Accreditation of Health Care organizations required hospitals to ban smoking indoors, but did not require restrictions on smoking in any other parts of the campus. By 1994, more than 96% of hospitals were smokefree, and 40% had tighter restrictions than were required (Institute of Medicine [IOM] 2013). By 2012, the majority of states and hundreds of individual communities in the United States had adopted comprehensive smokefree laws that prohibit smoking in nonhospitality workplaces, restaurants, and bars (CDC 2012c). Most hospitals, many private businesses, and hundreds of colleges and universities have now voluntarily prohibited tobacco use on their campuses, as a way to establish a smokefree norm that discourages people from using tobacco (CDC 2012d). The policies restricting where people can smoke have made cigarette use less socially acceptable and less convenient, and thus, have encouraged cessation and discouraged uptake of smoking (Gilpin 2004; Bauer 2005; Siegel 2008).

The progress in implementing comprehensive smokefree laws has been one of the major public health accomplishments since 1964; however, as reviewed later in this chapter, wide geographic, occupational, and demographic disparities remain and only about one in three residents of the United States lives under state or local laws that make worksites, restaurants, and bars completely smokefree (CDC 2008b, 2010).