Smoke-Free bars and restaurants in Norway

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1. Introduction

The Norwegian Directorate for Health and Social Affairs commissioned an evaluation of the Norwegian Government's 2003–07 tobacco control program. This commission was assigned jointly to the Norwegian Institute for Drug and Alcohol Research (SIRUS, Oslo) and the Research Centre for Health Promotion (HEMIL) at the University of Bergen. Evaluation of smoke free bars and restaurants in Norway, implemented on June 1. 2004, is one of several studies under this program. We will be posting evaluation findings, statistics, reports, articles in peer reviewed journals and power point presentations on this website, divided between seven main areas of concern.

1.1. Research questions

In short, the evaluation program focuses on enforcement of and compliance with the law; attitudes towards the law; ETS exposure; economic impact on the hospitality business; effect on tobacco habits (including sales statistics); and ;unintentional side-effects of the Act.

1.2. Data

The evaluation research makes use of several data resources.

- The Employee Study – a longitudinal study of employees in the hospitality business. Employees were asked about indoor air quality, smoking habits and attitudes, and recent health measures. Data were collected before the legislation came into force in May 2004 (N = 1525), with a follow-up in September 2004 (N = 847). Follow-up 2 will be conducted in May 2005.
- The Media Campaign Evaluation – a public awareness survey of an information drive in the run-up to the implementation of the legislation, April 22–June 20 2004. The survey (N = 1000) was conducted three weeks after the smoking ban June 1 enactment. Respondents were also questioned on the purpose of the smoking ban, personal tobacco habits and likelihood of giving up smoking now the smoking ban was in place.
- National tobacco habit surveys – quarterly (since 1973) cross sectional surveys of a representative sample of the population 16 and over conducted by the Norwegian Directorate for Health and Social Affairs and Statistics Norway. The surveys from 2003 and 2004 include data relevant to the smoking ban.

Other statistics will be analyzed to ascertain the economic consequences of the smoking ban.

- Monthly sales statistics on all tobacco products sold legally in Norway (cigarettes, roll-your-own tobacco, cigars, snus [oral moist snuff[and chewing tobacco). Compiled by Norwegian Customs and Excise monthly data .
- Value added tax statistics (VAT) compiled by Norwegian Directorate Tax Authorities and Statistics Norway showing bimonthly turnover in the hospitality business.
- Statistics on beer sold to pubs, bars and restaurants compiled by Association of Breweries. Information only available for 2003 and 2004.
- Two leading statistics on employment compiled by Statistics Norway: A) Labour Force Survey, of employment rates by sector, published quarterly every year (12 000 family units, 24 000 persons). B) Register-based employment statistics compiled from official registers kept by National Insurance Administration (RTV), Norwegian Directorate of Tax Authorities and Register of Business Enterprises at Brønnøysund Register Centre.
- Bankruptcy statistics in the hotel and restaurant business compiled by Brønnøysund Register Centre and Statistics Norway.

2. Enforcement and compliance

Key findings

Staff testimony:

- After total ban, customer compliance has generally increased, compared with former legislation with separate smoking areas
- After total ban, staffs compliance has increased, compared with former legislation with separate smoking areas

Customer testimony:

- Found it easier to comply than expected

Testimony from smokers:

- General willingness to comply

2.1 Reports from inspection authorities

Two inspection authorities, the Norwegian Labour Inspection Authorities and local health authorities in each municipality, oversee compliance with the smoking ban in the hospitality industry. There are to date no reports from these inspection authorities.

2.2 Enforcement and compliance – staff testimony

The Employee Survey was run before and after the smoking ban came into force. Prior to the ban, 50 per cent of the area open to the public was supposed to be smoke-free. Figure 2.1 shows various types of non-compliance from customers across a 4-point scale: "often", "sometimes", "seldom" and "not at all". Staff reported fewer compliance problems "often" or "sometimes" now than after the introduction of smoke-free zones some years ago.

Figure 2.1 Percent of staff reporting different compliance problems take place ”often” or ”sometimes” (4-point scale). Data collected before and after the ban.

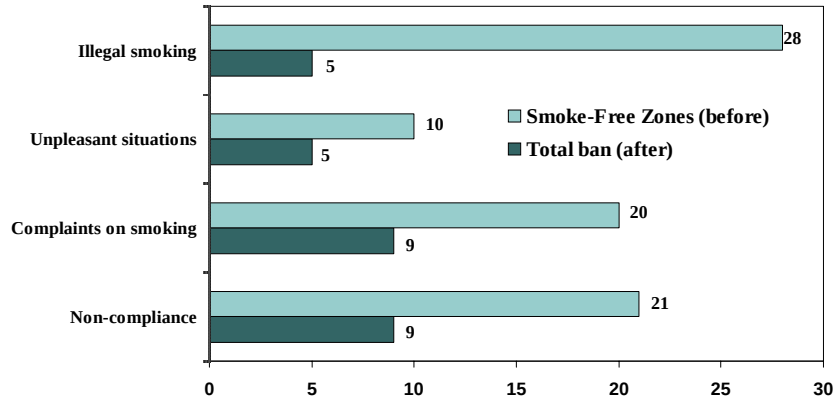

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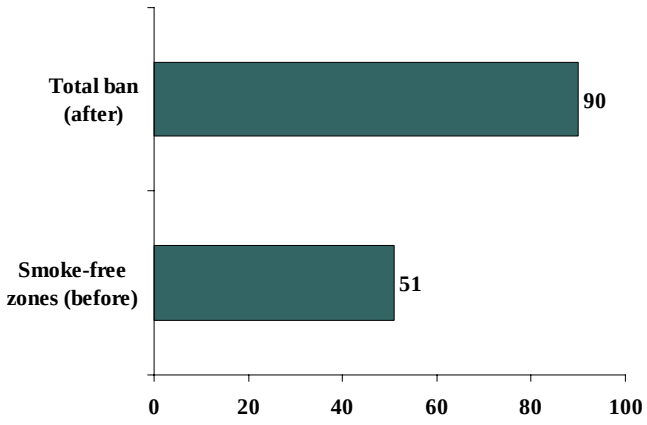
Figure 2.2 shows staff reports to what extent their own workplace complies with the smoking ban. 9 out of ten of staff report highly compliance with the smoking ban compared to former arrangement with smoking areas. It seems compliance is much easier to achieve with a total rather than partial ban.

Figure 2.2 Staff reporting compliance with the smoking ban at their workplace. Per cent reporting ”in high degree” on 4-point scale.



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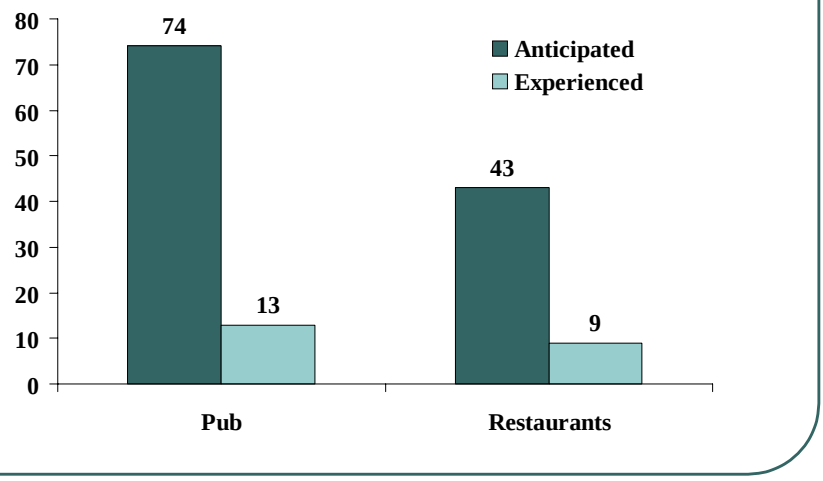
2.3 Enforcement and compliance – customer testimony

The Tobacco Habit Survey asked respondent (general public) about bars/pubs and restaurants custom frequency. Only respondents frequenting hospitality establishments once or more per month were included in the analysis. Customers were asked about compliance problems with the smoking ban in bars and restaurants (asked separately). On a 7-point scale 1 indicated 'highly unlikely' and 7 'very likely'. This survey was conducted twice, before and after the legislation came into force. The first looked at anticipated compliance, the second at experienced compliance. Figure 2.3 shows a marked difference in anticipation and experienced compliance.

Figure 2.3 Anticipated and experienced compliance problems among customer 18 years and above. Score 5-7 on 7-point scale (1 = highly unlikely, 7 = very likely).



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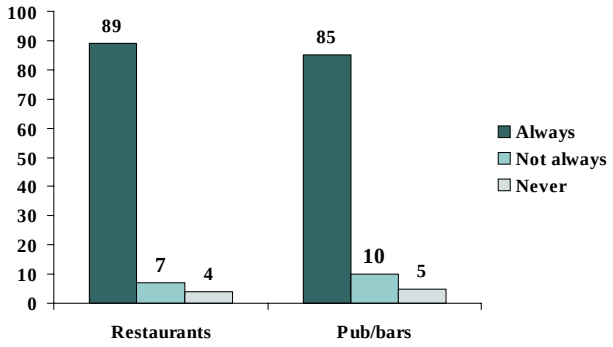
According to data from the evaluation of the information drive, smoking members of the general population were reportedly highly in favour of complying with the smoking ban (N = 320), see figure 2.4. The high level of public acceptance of the ban may be a result of the pre-legislation information drive run on TV and radio and at cinemas which highlighted passive smoking and the basic rights of staff to a clean working environment. The public trusted the information drive and said they learned a great deal about the smoking ban (Evaluation Report No. 1).

Figure 2.4 Smokers intention to comply with the smoking ban in bars and restaurants. Percent. Questions asked two weeks after the ban implementation. N = 320



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3. Attitudes towards the smoking ban

Key findings:

Staff testimony:

- No change in attitudes towards the smoking ban before and after implementation
- Less fear of difficulties with smokers on the premises
- The ban an acceptable way to reduce passive smoking (70 % agreed in 2004)
- Work conditions improved after the ban (57 % agreed in 2004)

General public:

- Increasingly likely to support the smoking ban

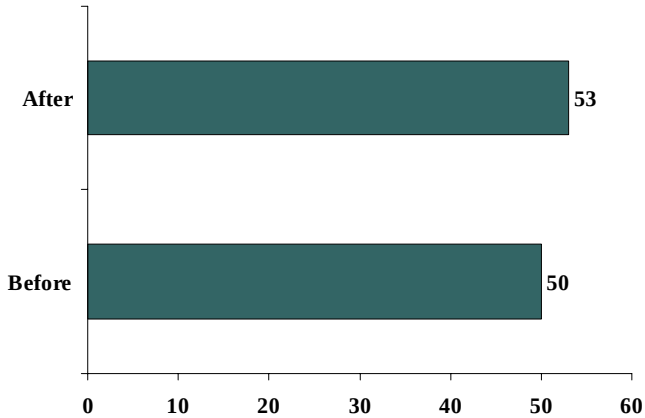
Testimony from smokers:

- No change in support before and after the ban

3.1 Support among employees

The Employee Study revealed no significant changes in staff attitudes towards the smoking ban. Before implementation, 50 % were positive, 53 % afterwards (figure 3.1). Employees who believed the smoking ban was put in place to improve workplace environment increased from 39 % to 47 %.

Figure 3.1 Staff reporting positive attitudes towards the smoking ban before and after the implementation. Percent.



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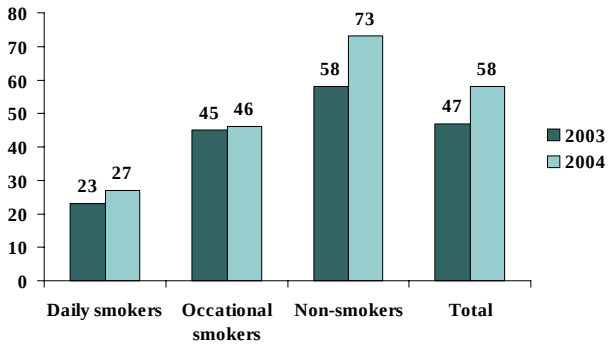
3.2 Support in the general population

The Tobacco Habit Survey asked respondents to state whether they approved or disapproved of the new smoking ban. In the total population we found significantly higher approval ratings in the last quarter of 2004 relative to last quarter of 2003. The difference in smokers' approval was not significant (figure 3.2).

Figure 3.2 Support towards the smoking ban in the general population before and after the implementation. Percent reporting score 6 or 7 on 7 point scale, 1 = strongly negative, 7 = strongly positive.



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There are no significant sex differences on approval ratings. Approval rose after the smoking ban came into force: with 57 % of men and 61 % of women approving in 2004. Younger people seemed less likely to approve than older people (55 % vs. 59 %), but the difference was not significant. There was a significant difference by education: 50 % of respondents with only lower secondary school qualifications approved of the ban compared to 73 % among the highly educated. We registered significantly rising approval rates only among the higher educated group from 2003 (54 %) to 2004.

4. Exposure to ETS (Environmental tobacco smoke)

Key findings:

Staff testimony:

- Less indoor-air quality problems
- Subjective health problems dropped significantly, more among non-smokers than smokers
- Respiratory problems decreased slightly, mainly among quitters

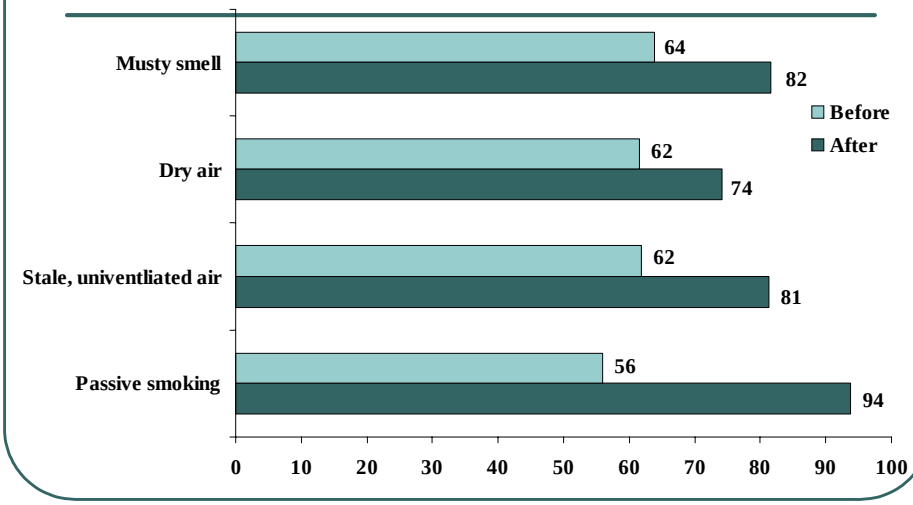
Customer testimony:

- 'Good indoor air' judgment increased among pub and restaurant visitors

4.1 The Employee Study

Employees' subjective opinions of indoor air quality were measured before and after the implementation of the ban. There were three optional response categories: "yes, often", "yes, sometimes" and "seldom or never". Figure 4.1 shows before/after impressions among employees of indoor air quality. Problems with indoor air quality fell after the introduction of the ban.

Figure 4.1 Percent of employees reporting different indoor air-climate "seldom or never" before and after the ban.



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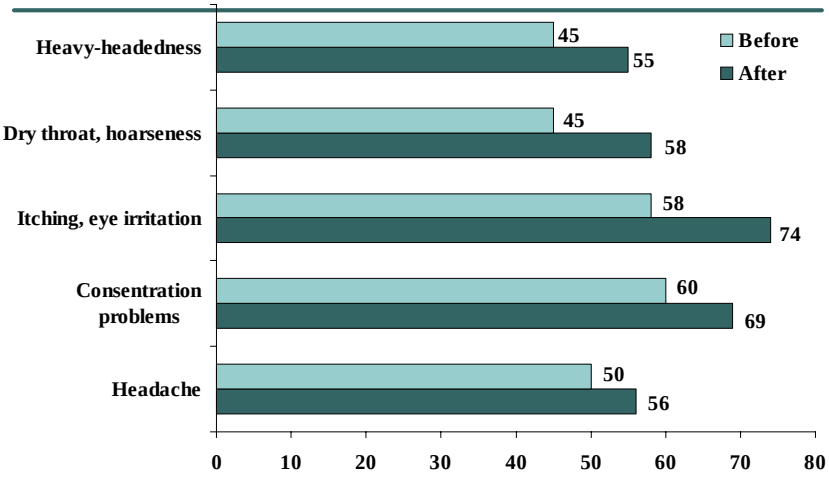
We also investigated prevalence among staff of headaches, coughing and irritated eyes etc. The sharpest falls were for dry throat, irritated eyes and heavy-headedness (figure 4.2). There was also a significant reduction in fatigue, dizziness and nasal irritation (not in figure).

Figure 4.2 Percent of employees reporting different health problems"never" before and after the ban.



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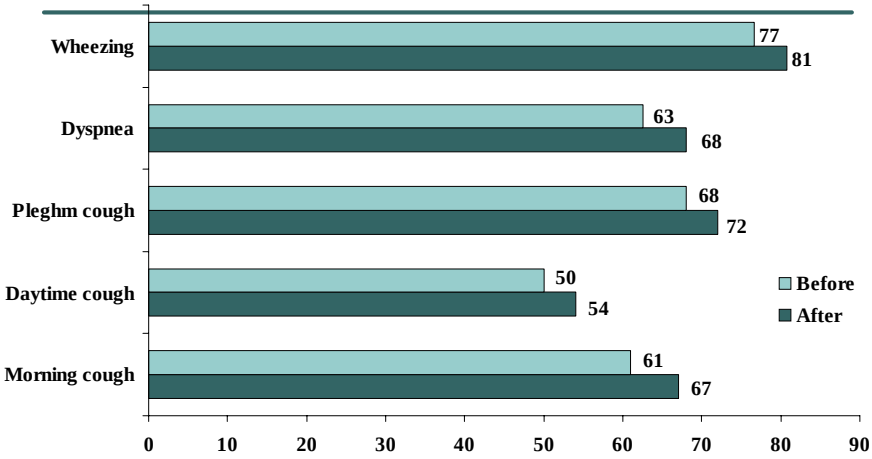
Respiratory problems like coughing, dyspnoea and wheezing were also traced before and after the ban. The results show a significant decrease in all respiratory problems, except wheezing, most markedly for dyspnoea, which fell by 6.1 percentage points (figure 4.3). For more detailed information about this study, see the HEMIL/SIRUS Report no. 3/2005.

Figure 4.3 Percent of employees reporting different respiratory symptoms ”never” before and after the ban.



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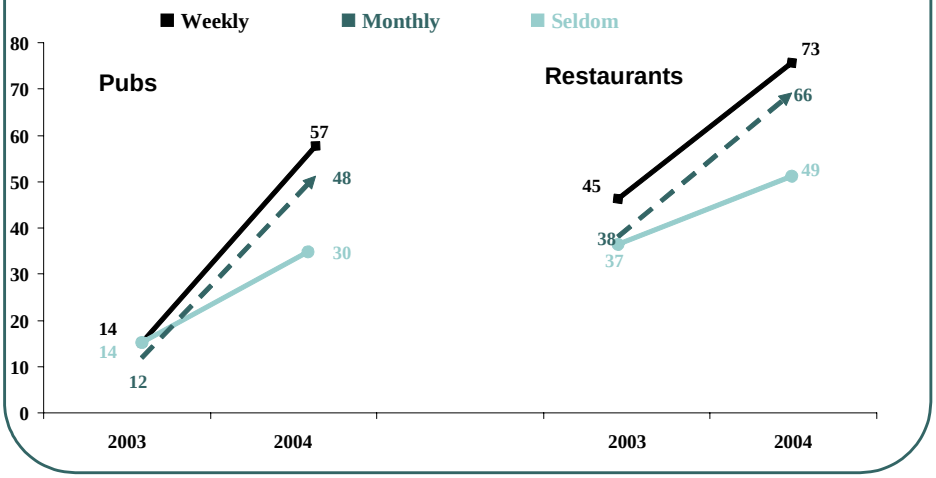
4.2 Subjective reports from the general population

The question contained in the tobacco habit surveys on indoor air quality before and after the ban (figure 1.2) went as follows: "How would you rate indoor air quality on your last visit to a 1) restaurant, 2) a pub/bar?" A 7-point scale (1 = "very bad", 7 = "very good") was used. Figure 4.4 shows a dramatic increase in perceptions of indoor air quality among customers visiting such places weekly or monthly. Indoor air quality is better in restaurants than pubs and bars, they say.

Figure 4.4 Percent of customers reporting good air quality at last visit in pub/bar or restaurant by visiting frequency. Value 6 and 7 on 7-point scale.



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4.3 Measuring bio-markers of nicotine

Norwegian Institute of Occupational Health is analyzing data on bar and pub staff. 90 employees in 13 bars and pubs were screened for nicotine metabolites in urine (cotinine) and lung functions before and after the smoking ban. Results from this study will be posted on the institute's website, spring/summer 2005: www.stami.no

5. Economic consequences

Key findings:

Objective outcome measures:

- 6 % decrease in sale of beers from breweries to pubs
- Small change in sales turnover index

General population:

- Customer self-reported frequency of pub and restaurant visits is unchanged

5.1 Objective outcome measures

Before the smoking ban came into force, the hospitality business and others focused on the harm to businesses of the legislation. We shall be studying data from various sources to determine the enactments impact on trade. Some of the statistics are not yet available.

Data from the Association of Breweries show a 6.0 % drop in beer sales to pubs, bars and restaurants eleven months before the smoking ban (June 2003-April 2004) compared to the same period after the smoking ban (June 2004-April 2005). In the same period there was a 2.8 % increase in sales to supermarkets. Figure 5.1 shows beers in 1000 litres sold to supermarkets and bars/restaurants every month from June 2003 to April 2005. A linear trend line is included in the figure. The sale from breweries to supermarkets was more susceptible to fluctuation compared to bars and restaurants sale, mainly due to the price war on beer between the supermarkets.

The Labour Force Survey of Statistics Norway for third and fourth quarter of 2003 and 2004 shows a 2.1 % decrease in employment in the entire hotel and restaurant sector, including simple accommodation (without other services). Employment statistics for restaurants and bars only, will be available during June 2005.

Statistics Norway publishes a quarterly turnover index on transport and tourism which includes hotel and restaurant business turnover figures. The base year for the turnover index is 2000. From 2001 to 2004 there was a slight increase for restaurants and cafes (104.2 – 112.2). For bars, the index increased from 105 (2001) to 140 (2004). The quarterly turnover index for restaurants and cafés decreased with 3.5 index points from the last quarters of 2003 (before the ban) to last quarter in 2004 (after the ban). There was no change in index point for bars in this period. Figure 5.2 shows the quarterly turnover index for bars and restaurants. Since

2002, especially bars have enjoyed rising figures. Restaurants and cafés seem to be more susceptible to seasonal variations than bars.

Figure 5.1 Beer sales from breweries to supermarkets and bars/restaurants in 1 000 litres. Data from Association of Breweries.

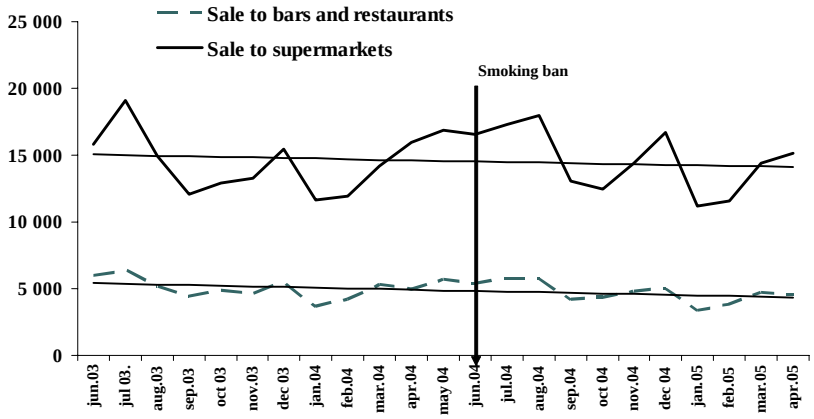

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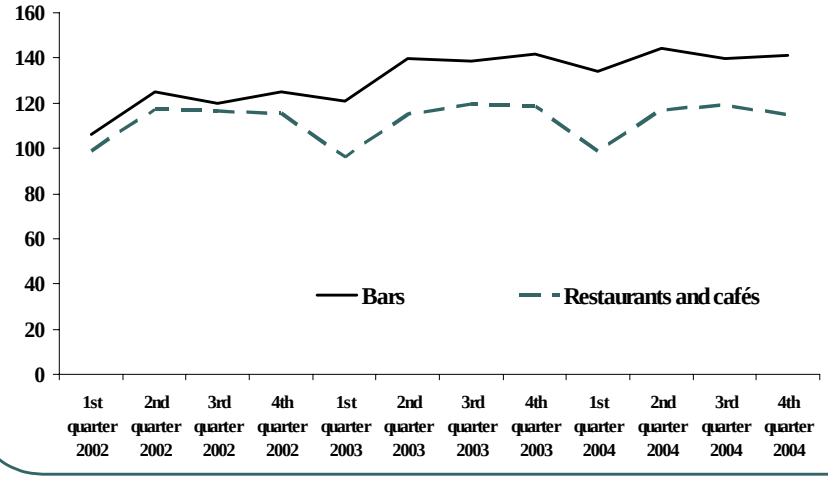
Figure 5.2 Turnover index for bars and restaurants Value index. 2000 = 100.



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5.2 Subjective reports from patronage

The Tobacco Habit Survey shows minor differences in bar/pubs and restaurant custom frequency before and after the implementation of the smoking ban. 25 % report a weekly pub/bar custom frequency in 2003, 23 % in 2004. Figures for restaurants are also unchanged after the smoking ban (figure 5.3). For smokers, the same patterns occur. Weekly pub/bar patronage among smokers was 25 % in 2003, 23 % in 2004. Weekly or monthly restaurants visits are also unchanged (figure 5.4).

Figure 5.3 Custom visiting frequency in pub/bars and restuarants before and after the ban. Data from the general population. Percent.

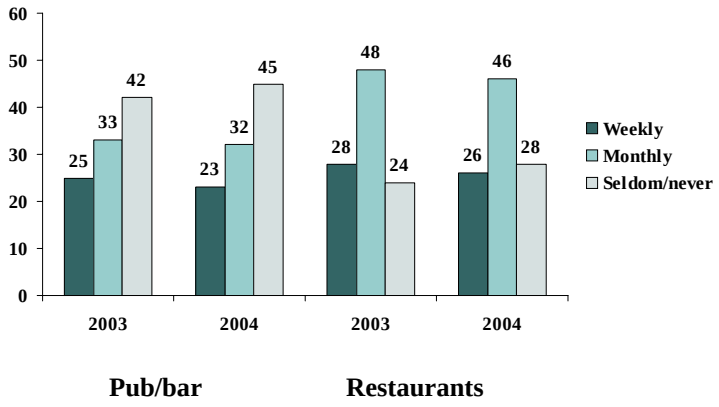

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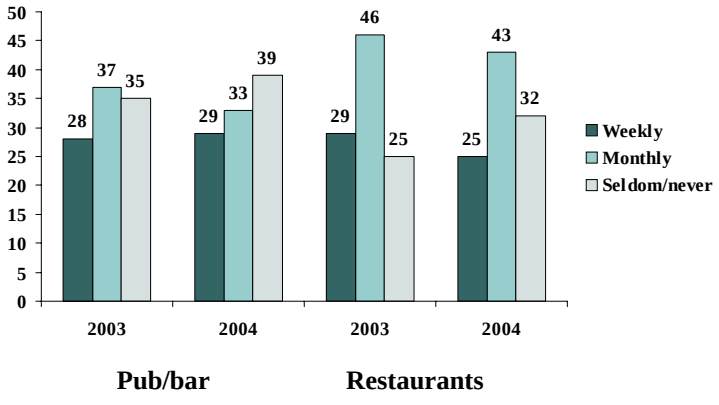
Figure 5.4 Custom visiting frequency for smokers in pub/bars and restaruants before and after the ban. Data from the general population. Percent.



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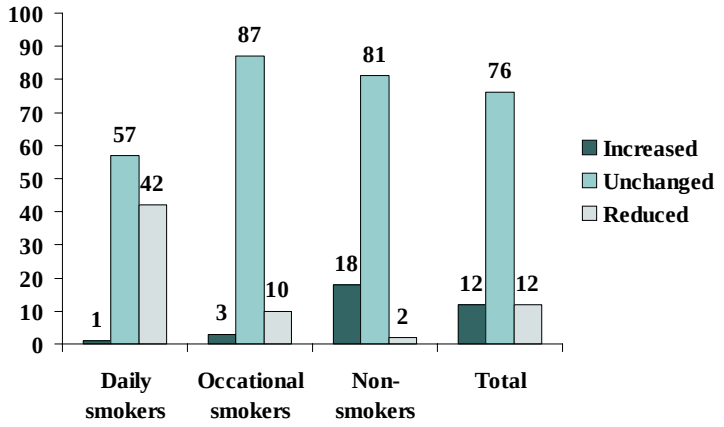
After the smoking ban was introduced, we asked respondents if the enactment had affected how often they frequented pubs and restaurants. The wording of the question was: "Has the ban on smoking in hospitality venues changed your patronage habits?" The results given in figure 5.5 differ from those in figure 5.4 above insofar as 42 % reported lower patronage frequencies. The results in figure 5.5 illustrate how a question's wording can influence the responses. When we asked respondents whether patronage was affected directly by the ban on smoking, smokers reported lower patronage frequencies than set out in figure 5.4.

Figure 5.5 "Has the ban on smoking in hospitaliy venues changed your visiting frequency?" Data from general population. Percent.



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6. Change in tobacco habits and tobacco sales

Key findings:

Staff testimony:

- Significant reduction in prevalence of daily smoking and smoking intensity

General public:

- Non-significant reduction in smoking prevalence
- Significant increase in quit attempts
- Increase in snus incidence

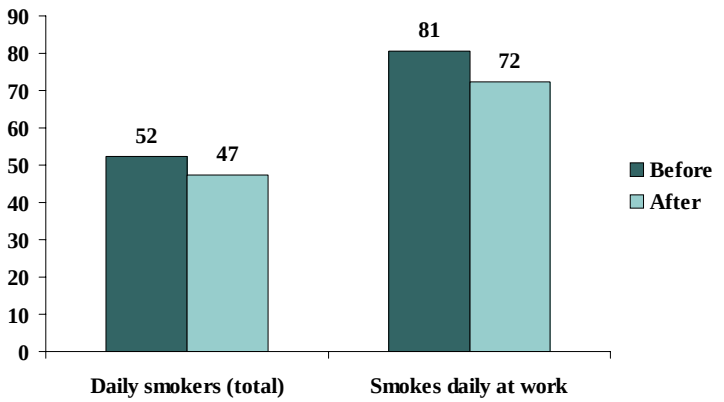
Tobacco sales statistics:

- 16.8 % decrease in per capita sales of cigarettes and roll-your-own
- 27 % increase in per capita sales of snus

6.1 Staff are changing their tobacco habits

There was a modest, but significant reduction in daily smokers among employees. The smoking ban has also led to a reduction in smoking at work (figure 6.1). At the same time, the number of occasional smokers rose after the ban. Average cigarette consumption decreased in the period. Before the ban, daily smoking employees smoked on average 14.7 cigarettes per day. After the ban, 13.3 per day, and this reduction is statistically significant.

Figure 6.1 Smoking habits among employees before and after the ban. Percent.



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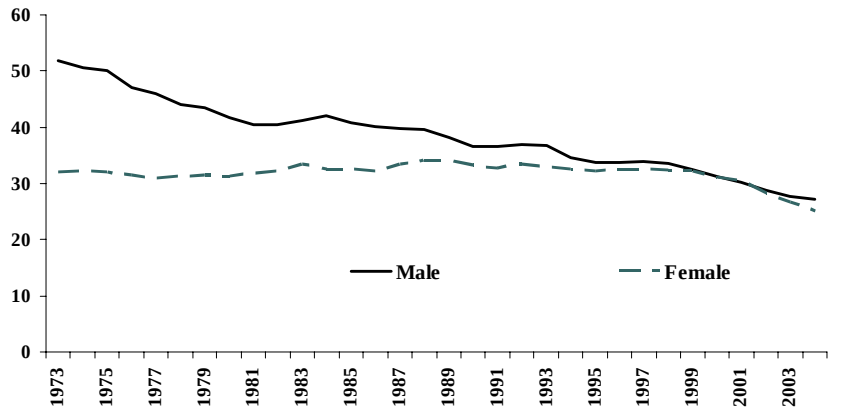
6.2 Changes in tobacco habits in the general population

The prevalence of daily smoking among men dropped significantly 1973–2004. Women's daily smoking remained at a stable 30 percent for 30 years, but fell in 2003 (figure 6.2). There was a significant reduction in prevalence of daily smoking 2002–03, mainly among the lowest age groups (16–24). The prevalence of daily smoking men and women was 26 % in 2003 and 2004.

Figure 6.2 Prevalence of daily smoking in Norway, age 16-74, 1973-2004. Three years moving average.



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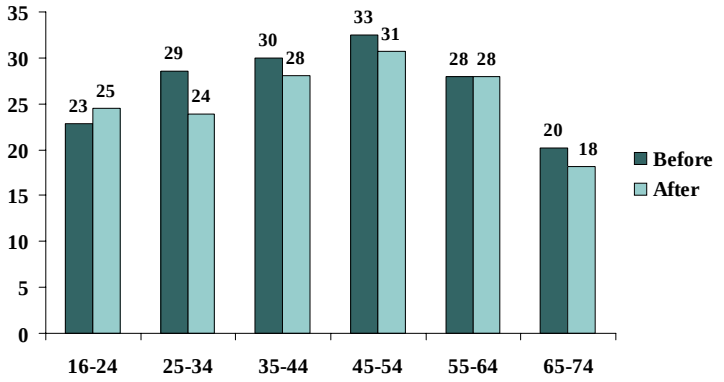
Preliminary results show no significant change in daily smoking prevalence before (third and fourth quarter 2003) and after the smoking ban (third and fourth quarter 2004). Smoking prevalence among 25–34s was 29 % in 2003; a year after we register 24 %, but this reduction is not significant (figure 6.3).

Figure 6.3 Daily smoking prevalence in different age groups.



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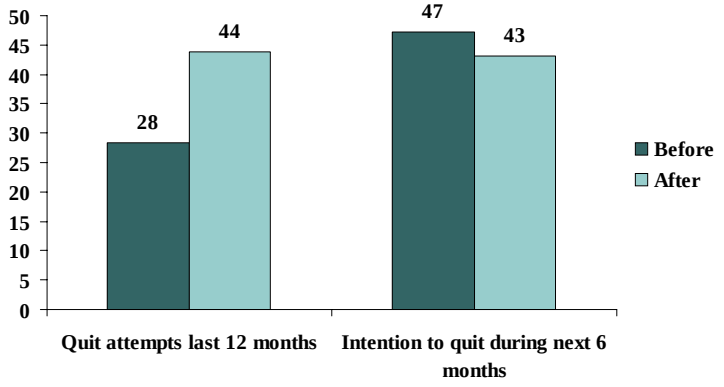
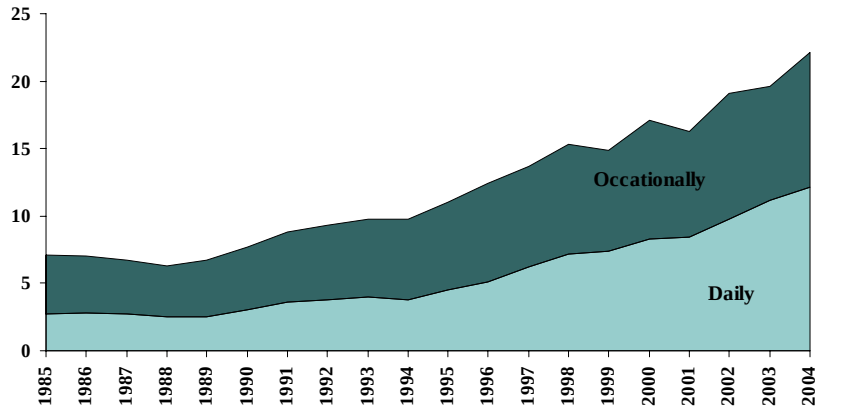
In the fourth quarter tobacco habit survey several questions were put to elicit information on smoking cessation. Daily smokers were asked whether they had ever tried quitting, tried quitting during the last year and intentions to quit within the next 6 months. Smoking cessation intention has been stable from 1999 (36 % intended to quit in the next six months) to 2004 (43 %). We see a significant increase in quit attempts among daily smokers after the smoking ban (figure 6.4).

Figure 6.4 Quit attempts last 12 months and intention to quit during next 6 months for daily smokers, aged 16-74. Percent.



The use of snus (oral moist snuff) is a trend on the rise among young men in Norway, and given the introduction of totally smoke-free public facilities it is expected to rise further. Bars and cafes have installed "snus-refrigerators", and started stocking snus. Among men 16–44, 13 % uses snus on a daily basis, 11 % occasionally. There has been no change in the prevalence of male snus users from 2003 to 2004 according to the Tobacco Habit Survey. Figure 6.5 illustrates male aged 16-44 snus user prevalence in Norway from 1985.

Figure 6.5 Prevalence of male snus users, age 16-44, 1985-2004. Three years moving average.



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6.3 Tobacco sales statistics

Norwegian Customs and Excise compile a monthly report on tobacco products sold in Norway, including filter cigarettes, roll your own tobacco, snus (oral moist snuff), cigars and chewing tobacco. The per capita sale of roll-your-own tobacco fell 34 % from June–December 2003 to same period 2004. At the same time snus purchases rose 27 % (per capita). Total tobacco sales fell 14 % per capita in the same period, se figures 6.6 and 6.7.

Figure 6.6 Registered sale of tobacco products in Norway before and after the smoking ban (June-December 2003/2004)

	Cigarettes	Roll your own	Total smoked cigarettes	Snus	Cigars	Chewing tobacco	Tobacco total
Before the smoking ban	1 502 312	1 078 431	2 577 744	282 329	21 236	7 674	2 888 983
After the smoking ban	1 439 712	719 202	2 158 915	361 167	20 863	7 936	2 548 880
Before the smoking ban Per Capita	0,4125	0,2952	0,7077	0,0775	0,0058	0,0021	0,7932
After the smoking ban Per Capita	0,3926	0,1961	0,5887	0,0984	0,0057	0,0022	0,6951
Change in per capita %	-4,8 %	-33,6 %	-16,8 %	+27,0 %	-1,7 %	2,7 %	-14,1 %

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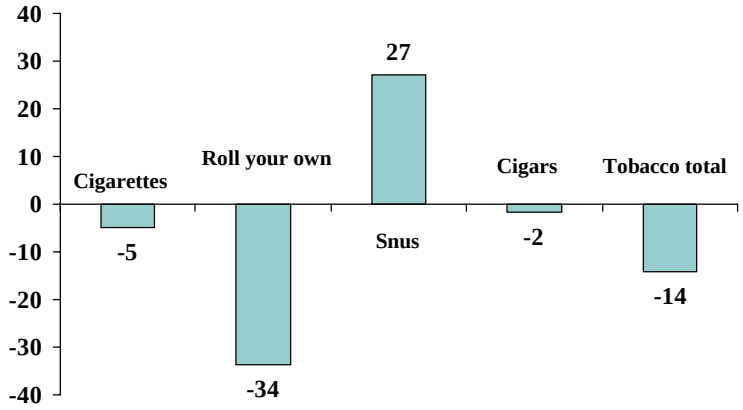
Figure 6.7 Change in per capita in percent before and after the smoking ban.



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7. Summary

The preliminary results from the Norwegian smoking ban show a general willingness to comply both among employees and customers. It seems like a total ban is easier to enforce and comply with compared to earlier situation with smoke free zones legislation. In the general public, the support towards the smoking ban has increased after implementation. Health problems dropped significantly among employees after the ban implementation and bar visitors report increased air quality after the ban. Possible harm to the hospitality business is observed by the 6 % decrease in beer sale to bars and restaurants. This may also be due to other factors than the smoking ban. At the same time, the customers self-reported visiting frequency seems unchanged. The smoking prevalence is stable, but an increase in snus incidence is observed. The total sale of tobacco has dropped, but data on illegal tobacco sale is not included in this report. Please keep in mind that the results from this report is preliminary and new data will be added during this year, like employment statistics, reports from the inspection authorities and population surveys on tobacco habits. As new data arrive, updated version of this document will be available at the research institute's web pages.