

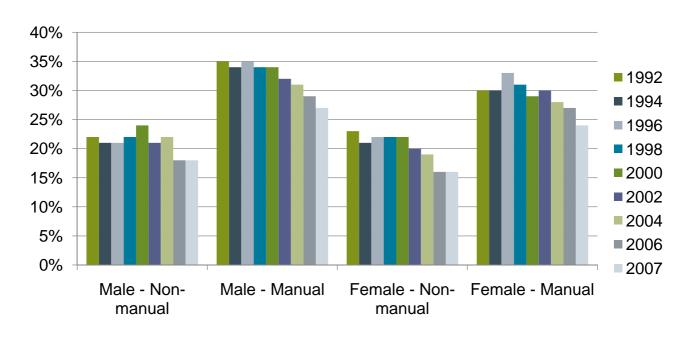
Health and Care Conference 2010 Bridget Browne, Chief Pricing Actuary Life, PartnerRe Kevin O'Regan, Head of Longevity, PartnerRe



#### Let's start with a Straw Poll

- Estimate smoker prevalence in 1970, 1990, 2010
- For U.K. Males and Females

## Prevalence of cigarette smoking among adults by gender and socio-economic group, England

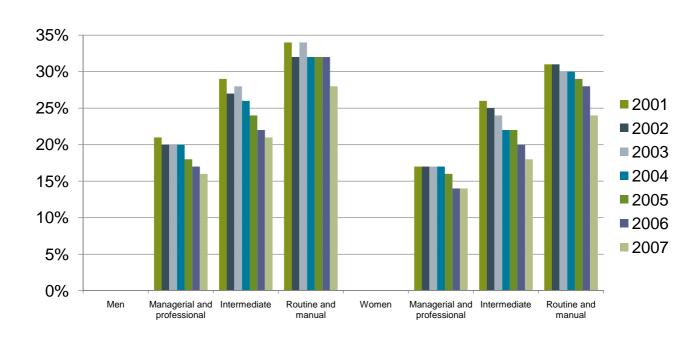


Source: General Household Survey 2007, ONS

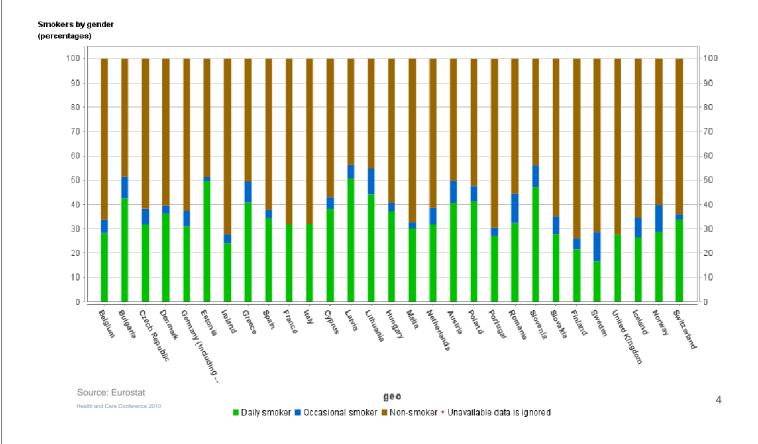
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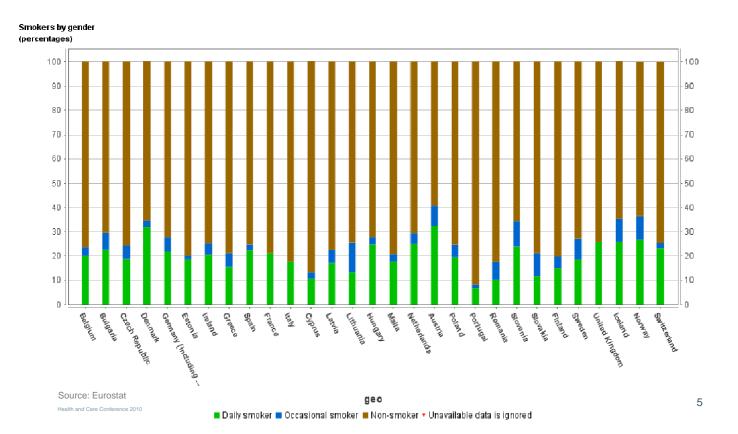
# Prevalence of cigarette smoking among adults, by gender and socio-economic classification, England



#### **Smoker Status: Males**



#### **Smoker Status: Females**



## Smoking bans worldwide as of 8 February, 2010:



- \_ no restrictions or no data \_\_ patchy and incomplete bans, low enforcement
- \_\_ no national ban, some localities have comprehensive indoor bans
- \_\_ strong national ban in public areas except entertainment and restaurants, or weak enforcement in indoor entertainment areas
- \_\_ strong national ban in public areas except entertainment and restaurants, some localities have comprehensive indoor bans
- \_\_ strong national ban in all public indoor areas with some exceptions \_\_ strong national ban in all public indoor areas

Source: Wikipedia

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#### What is banned where and since when?

	Date	Extent			
Scotland	26 Mar 2006	Prohibited smoking in enclosed (more than 50% covered) public places, including public buildings, workplaces, sports stadiums, bars and restaurants			
Wales	2 Apr 2007	Banned across all enclosed public premises and work premises			
Northern Ireland	30 Apr 2007	Illegal to smoke in all enclosed workplaces, including bars, restaurants, offices (even if the smoker is the only person in the office) and public buildings			
England	1 Jul 2007	Smoking became banned in indoor public places in England including workplaces, bars, clubs and restaurants			
Compared to some neighbours:					
Ireland	29 Mar 2004	First country in the world to institute an outright ban on smoking in workplaces - illegal to smoke in all enclosed workplaces including bars, restaurants, clubs, offices, public buildings, company cars, trucks, taxis and vans			
France	1 Jan 2008	Banned in all public places including cafés and restaurants, clubs, casinos, bars			

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Source: Wikipedia http://en.wikipedia.org/wiki/Smoking bans 20100415

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PHYLIP MORRIS U.S.A.

TNTER-OFFICE CORRESPONDENCE 120 PARK AVENUE, NEW YORK, N.Y. 10017

TO: Lauis Suverna DATE: January 21, 1992

John Meironimus

SHRIBER: Impact of morkplice Restrictions on Consumption and Incidence

In the attached, information obtained from the FOL and Tracking matcheses was analyzed in order to estimate the impact of workplace restrictions on industry volume. Although Tracking data is probably more representative, it does not provide the historical or longitudinal data available from the FOL database.

#### Summa~v of Major Findings

- Potal prohibition of smoking in the workplace strongly effects industry volume. Smokers facing these restrictions consums 119-15% less than average and quit at a rate that is 84% higher than average. Only 6.4%-10.3% of smokers face total workplace prohibition but these restrictions are rapidly becoming more common.
- Wilder workplace restrictions, such as smoking only in designated areas, have much less impact on quitting rates and very little effect on consumption.
- Smokers not in the labor forces (retired, unemployed, housewives, etc.) quit at a rate Al% above average and have also reduced their ocasumption noticeably over the last few years. These smokers have be much more sensitive to price increases, economic volatility and health concorns.
- From 1987 to 1991, the industry lost an estimated incremental 1.7% (9.5 billion units) due to increasing workplace restrictions. If these trends continue, the industry will lose an additional 1.3% to 1.9% (8.4 to 11.4 billion units) from 1994 to 1996.
- If emoking were banned in all workplaces, the industry's average consumption would decline 8.78-10.18 from 1991 levels and the quitting rate would increase 748 (e.g., from 2.58 to 4.48).

Source: Wikipedia

#### "Ban stubs out Italy tobacco sales"

21 January, 2005

- A ban on public smoking, introduced less than two weeks ago, is already starting to have a dramatic effect on Italian cigarette sales.
- Sales fell 23% since a ban on smoking in all enclosed public places, such as bars, restaurants and offices, came into force on 10 January.
- Trade groups have threatened to fight the ban in the courts.

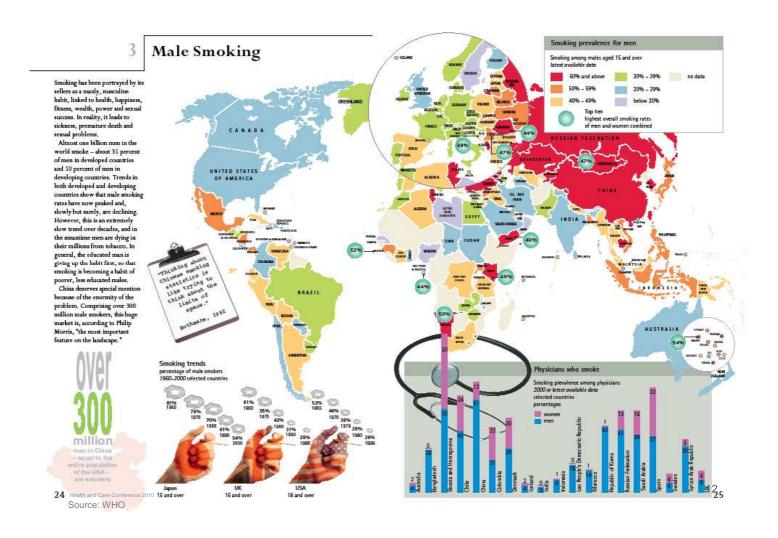
Source: http://news.bbc.co.uk/2/hi/business/4195249.stm

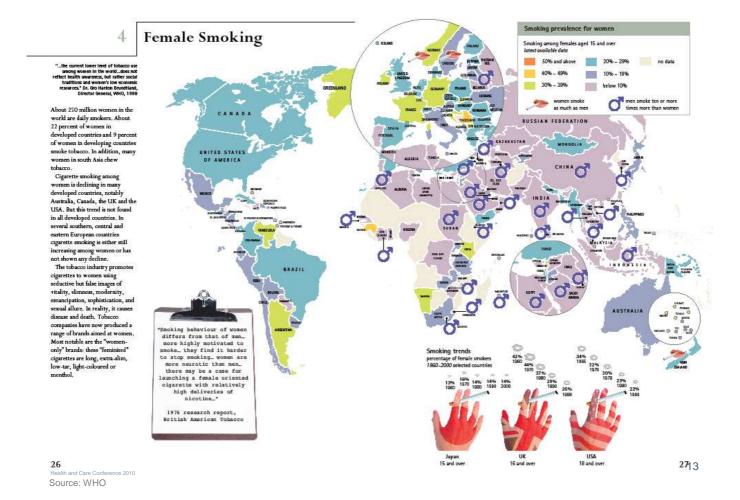
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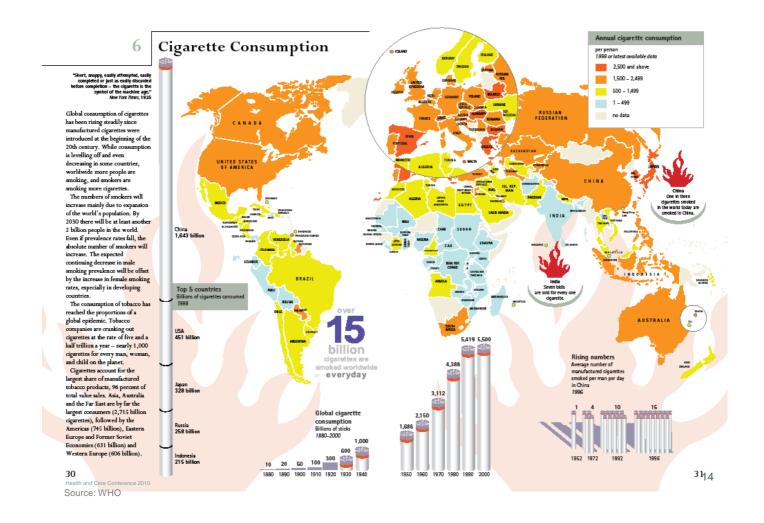
### "Smoking ban begins to bite into brewers' profits"

26 February, 2008

- THE UK'S brewing sector has had little to cheer of late, as it battles an economic "perfect storm" of performance-sapping conditions.
- A shrinking market and dismal summer, a pub smoking ban that has lured drinkers to cut-price offers in supermarkets, and spiralling ingredient costs have combined to take the fizz out of brewers' results like never before.



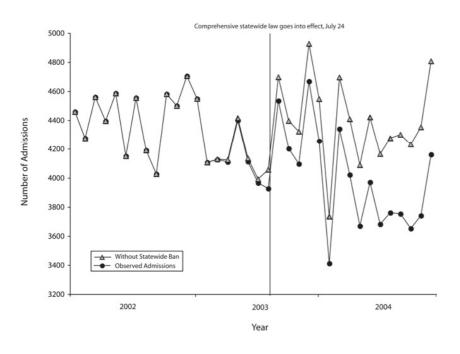




#### "Does banning smoking in public places improve public health? Yes, a new study finds, and the effects are large and long-lasting."

- A municipal smoke-free ordinance took effect in Pueblo, Colo., in 2003, and researchers tracked the incidence of heart attacks, comparing rates in the city with those in its surrounding county and a neighboring county where there were no smoking bans. Their analysis appears in the Jan 2 Morbidity and Mortality Weekly Report.
- In the 18 months preceding the ban, rates in the city and surrounding areas were identical and declining slowly. But in the year and a half after the new law took effect, hospitalizations for heart attack decreased 27 percent in the city, while remaining unchanged in the other two districts. After 18 more months, through June 2006, rates in the city were 41 percent lower than before the ordinance was passed, and still unchanged in the surrounding area.
- Dr. Christine Nevin-Woods, the executive director of the Pueblo City-County Health Department, which conducted the research, acknowledged that the study did not control for smoking, and that it was unknown whether the ordinance actually reduced the number of smokers. Still, she said, "We're finding that, surprisingly, smoking ordinances are bringing down heart attack rates significantly, and rates continue to go down over a longer period of time."

#### Declines in Hospital Admissions for Acute Myocardial Infarction in New York State After Implementation of a Comprehensive Smoking Ban



Observed number of hospital admissions for acute myocardial infarction and predicted number of hospital admissions in the absence of a comprehensive smoking ban, by month: New York State, 2002–2004.

Source: November 2007, Vol 97, No. 11 | American Journal of Public Health *Juster et al.* 

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#### Reduction in myocardial infarction attributed to introduction of smokefree legislation by different studies

Study location	% reduction	Study location	% reduction
Italy (4 regions)	14%	Ireland	11%
Helena, Montana	40%	Pueblo, Colorado (18 mths)	27%
Piedmont, Italy	11%	New York State	20%
Scotland	17%	Bowling Green, Ohio	39%
Massachusetts	18%	Pueblo, Colorado (36 mths)	41%
Saskatoon, Canada	13%		
Rome, Italy	11%	Overall	19%

Note that outcomes heavily influenced by other factors: initial prevalence of smoking, difficulty of separating the impact of the smoking ban from factors associated with the imposition of the ban such as public consultation periods, education as to damaging effects of smoking and provision of smoking cessation programs, and further that these smoking bans differed in terms of the areas affected and also the effectiveness of enforcement.

#### Respiratory

- One paper considered the impact of smoke-free legislation on respiratory function and biomarkers of inflammation in bar workers in Tayside, Scotland with separate evaluations before and after the introduction of the smoking ban on 26 March 2006. Healthy changes were seen in the prevalence of symptoms, lung function tests that are normally used to assess the degree of severity of chronic obstructive pulmonary disease and blood analysis in terms of biochemistry and prevalence of inflammatory cells.
- But this is hardly surprising after all is it possible that smoking bans could make things worse?

Source: Towers Watson and Respiratory symptoms, pulmonary function, and markers of inflammation among bar workers before and after a legislative ban on smoking in public places. Menzies et al (2006) JAMA, 296(14), 1742-1748

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## "Smoking ban bad news for children"

18 December, 2005

- A ban on smoking in some public places may be bad for children because more adults will smoke at home in instead. A University College London (UCL) study found smokers lit up more at home if they couldn't in pubs and restaurants.
- The study of data from the U.S. showed that the problem of passive smoking at home is worse for poorer families.
- Pro-smoking groups say the study proves bans don't achieve their aims, while anti-smoking groups said other studies showed bans reduced home smoking too.
- The U.S. data was a health study of 30,000 people of all ages, across a number of different states in the U.S., all with different laws on where it was okay to smoke.

#### "The Effect of Bans and Taxes on Passive Smoking"

January 2010

 We evaluate the effect of smoking bans and excise taxes on the exposure to tobacco smoke of nonsmokers, and we show their unintended consequences on children. Smoking bans perversely increase nonsmokers' exposure by displacing smokers to private places where they contaminate nonsmokers.
We exploit data on bio-samples of cotinine, time use, and smoking cessation, as well as state and time variation in antismoking policies across U.S. states.

Source: http://www.aeaweb.org/articles.php?doi=10.1257/app.2.1.1e:

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#### "Drunk driving after the passage of smoking bans in bars"

June 2008

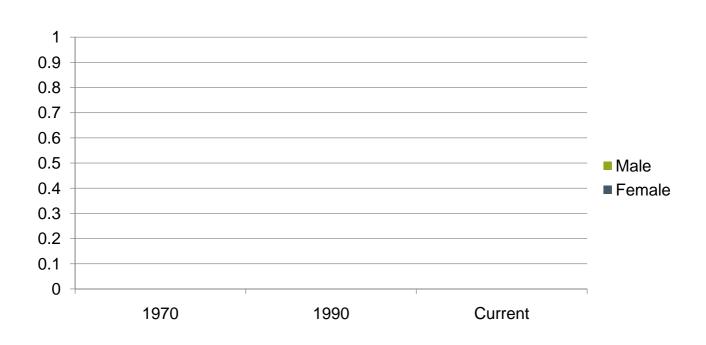
• Using geographic variation in local and state smoke-free bar laws in the U.S., we observe an increase in fatal accidents involving alcohol following bans on smoking in bars that is not observed in places without bans. Although an increased accident risk might seem surprising at first, two strands of literature on consumer behavior suggest potential explanations -- smokers driving longer distances to a bordering jurisdiction that allows smoking in bars and smokers driving longer distances within their jurisdiction to bars that still allow smoking, perhaps through non-compliance or outdoor seating. We find evidence consistent with both explanations. The increased miles driven by drivers wishing to smoke and drink offsets any reduction in driving from smokers choosing to stay home following a ban, resulting in increased alcohol-related accidents. This result proves durable, as we subject it to an extensive battery of robustness checks.

### Relative impact: Workplace vs all indoor

- When was smoking banned in your workplace?
- How much time do you spend at work compared to in restaurants/pubs/bars?
- Honestly?
- Has the majority of the impact already worked its way through?
- As a Smoker: have you noticed a difference?
- As a Non Smoker?

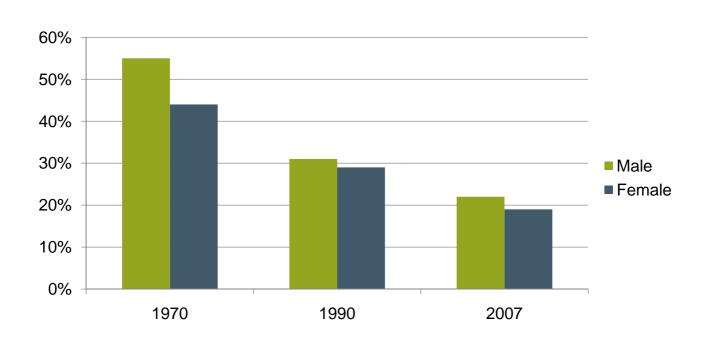
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## Straw poll – your views



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#### Straw Poll - answers



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#### Conclusion

- Smoking bans are another positive influence on the ongoing trend in reductions in mortality and incidence for several diseases: circulatory, respiratory and ultimately some cancers.
- They will emerge as one of the sources of the evolution in rates most in the industry are already anticipating.
- Care needs to be taken not to overstate impact and to tease out interactions between a wide variety of factors, not the least of which is our own perception.

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## **Questions or comments?**



Unification Conference 2002