Impact of Reduced Ignition Propensity Cigarette Regulation on Consumer Acceptability and Quit Intentions:

Evidence from 6 Waves (2004-2011) of the ITC Four Country Survey

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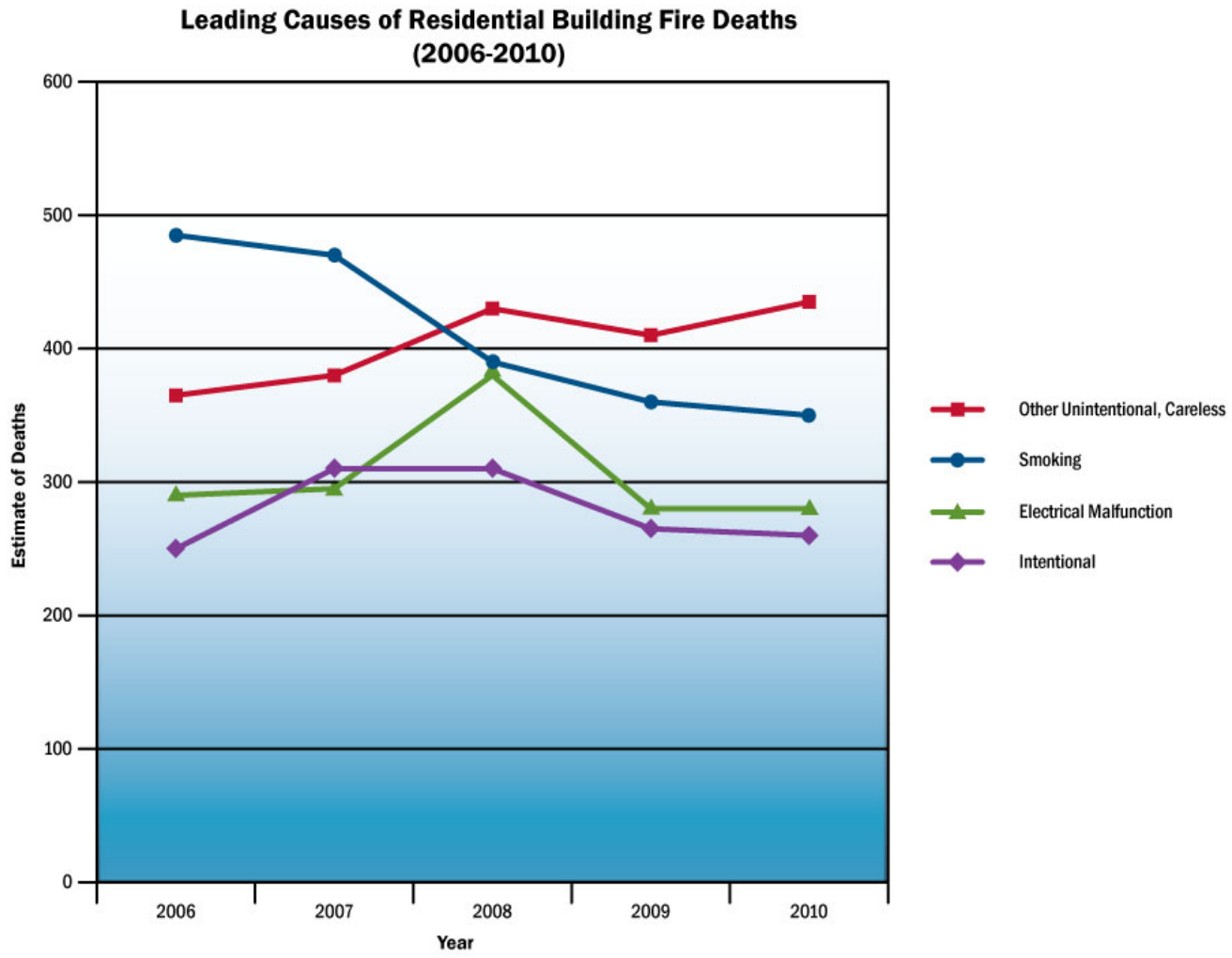
Why RIP legislation?

- Smoking-related fires
  - Fires that are caused by cigarettes, cigars, pipes, and heat from smoking materials

- Smoking-related fires remain a leading cause of fire death in the US and UK and account for over 10% of fire-related deaths worldwide

Causes of residential building fire deaths



What are the costs associated with these fires?

National Estimates of **Total** Smoking-Related Fires and Losses for the US

Year	Smoking-related Fires	Fire Deaths	Fire Injuries	Dollar Loss
2010	90,800	610	1,570	$663,000,000

National Estimates of **Residential Building** Smoking-Related Fires and Losses by Year for the US

Year	Smoking-related Fires	Fire Deaths	Fire Injuries	Dollar Loss
2008	8,300	390	950	$334,700,000
2009	7,000	360	900	$356,500,000
2010	7,600	350	950	$286,200,000
2011	7,800	305	1,050	$296,500,000

Source: Smoking related Fires in Residential Buildings (2008-2010) http://www.usfa.fema.gov/downloads/pdf/statistics/v13i6.pdf

What do we do?

- Smoking-related fires and the costs associated with them have prompted law makers to enact legislation requiring manufacturers to implement reduced ignition propensity (RIP) standards for cigarettes

- RIP cigarettes are designed with paper that has lower porosity bands that are designed to self-extinguish when not being continually smoked

What is a RIP cigarette?

- These cigarettes must comply with ASTM International method E2187-04: Standard Test Method for Measuring the Ignition Strength of Cigarettes

www.irishexaminer.com

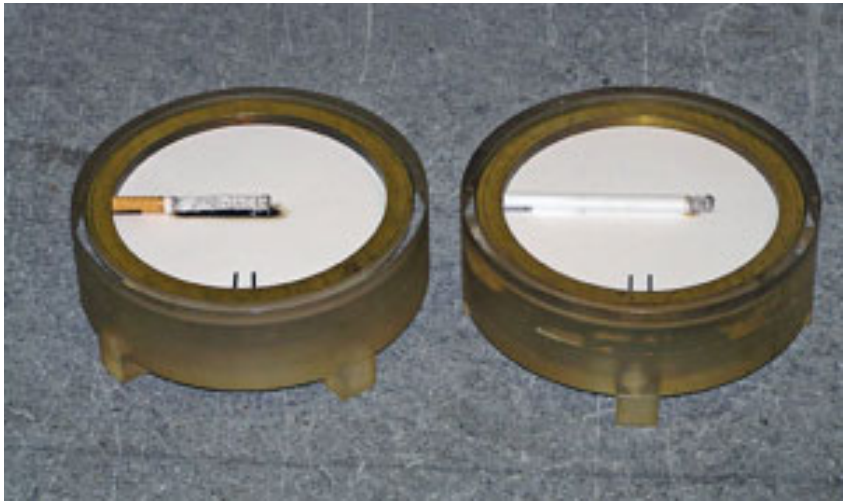


Photo: National Institute of Standards and Technology

The tobacco industry position

- The tobacco industry historically opposed RIP legislation—they argued RIP cigarettes:
  - May have increased toxicity
  - May lead to negligent behaviors
  - May reduce consumer appeal

- Phillip Morris International's position on RIP standards:
  - "We believe that the experience from countries that have mandated RCIP requirements …should be thoroughly examined to evaluate the effectiveness …in terms of reducing cigarette-ignited fires before other countries consider introducing such standards"

  - "We believe governments should not mandate RCIP standards if these design changes result in products that are unacceptable to adult smokers or increase the health risks of smoking."

http://www.pmi.com/en_cz/tobacco_regulation/regulating_tobacco_products/reduced_cigarette_ignition_propensity/pages/reduced_cigarette_ignition_propensity.aspx

Impact of RIP cigarettes: the evidence

- RIP legislation is not associated with significant changes in smoking behaviors or intention to quit
- Mixed evidence on the toxicology of RIP cigarettes
- Smokers are not more likely to engage in negligent behaviors

Research Questions

- How does the implementation of RIP cigarette safety standards in different countries influence smokers' perceptions of:
  - cigarette self-extinguishment?
  - frequency of extinguishment?
  - number of cigarettes smoked per day?
  - intention to stop smoking?

Methods and Measures

- Participants
  - Waves 3 through 8 of the International Tobacco Control (ITC) Four Country Survey (ITC-4) conducted longitudinally from 2004 through 2011 in the United States (US), United Kingdom (UK), Australia, and Canada.
- Measures
  - RIP Law (0,1)
  - Self-extinguishment
  - Frequency of self-extinguishment
  - Cigarettes Smoked Per Day
  - Intention to quit smoking

RIP law implementation

- Table 1: Percent of respondents in each country in jurisdictions with RIP cigarette safety standards

Fieldwork Date	US	Canada*	Australia	UK
Jun 2004 – Dec 2004 (Wave 3)	5.4	0	0	0
Oct 2005 – Jan 2006 (Wave 4)	7.3	100	0	0
Oct 2006 – Feb 2007 (Wave 5)	11.9	100	0	0
Sep 2007 – Feb 2008 (Wave 6)	23.7	100	0	0
Jun 2009 – Dec 2009 (Wave 7)	45.7	100	0	0
Jul 2010 – Jun 2011 (Wave 8)	96.8	100	100	0

Figure 1: Percent of respondents reporting their cigarettes self-extinguish by country

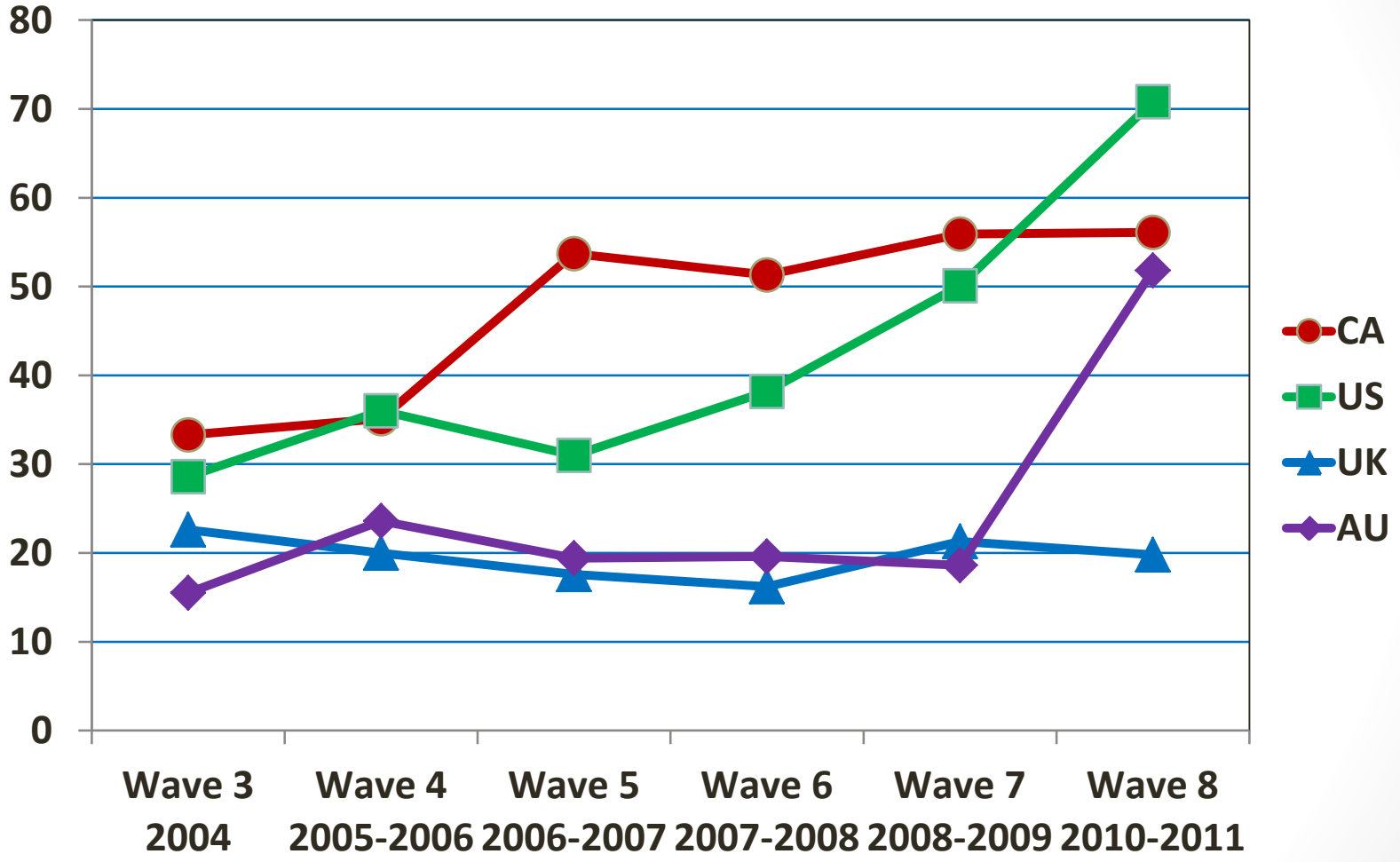
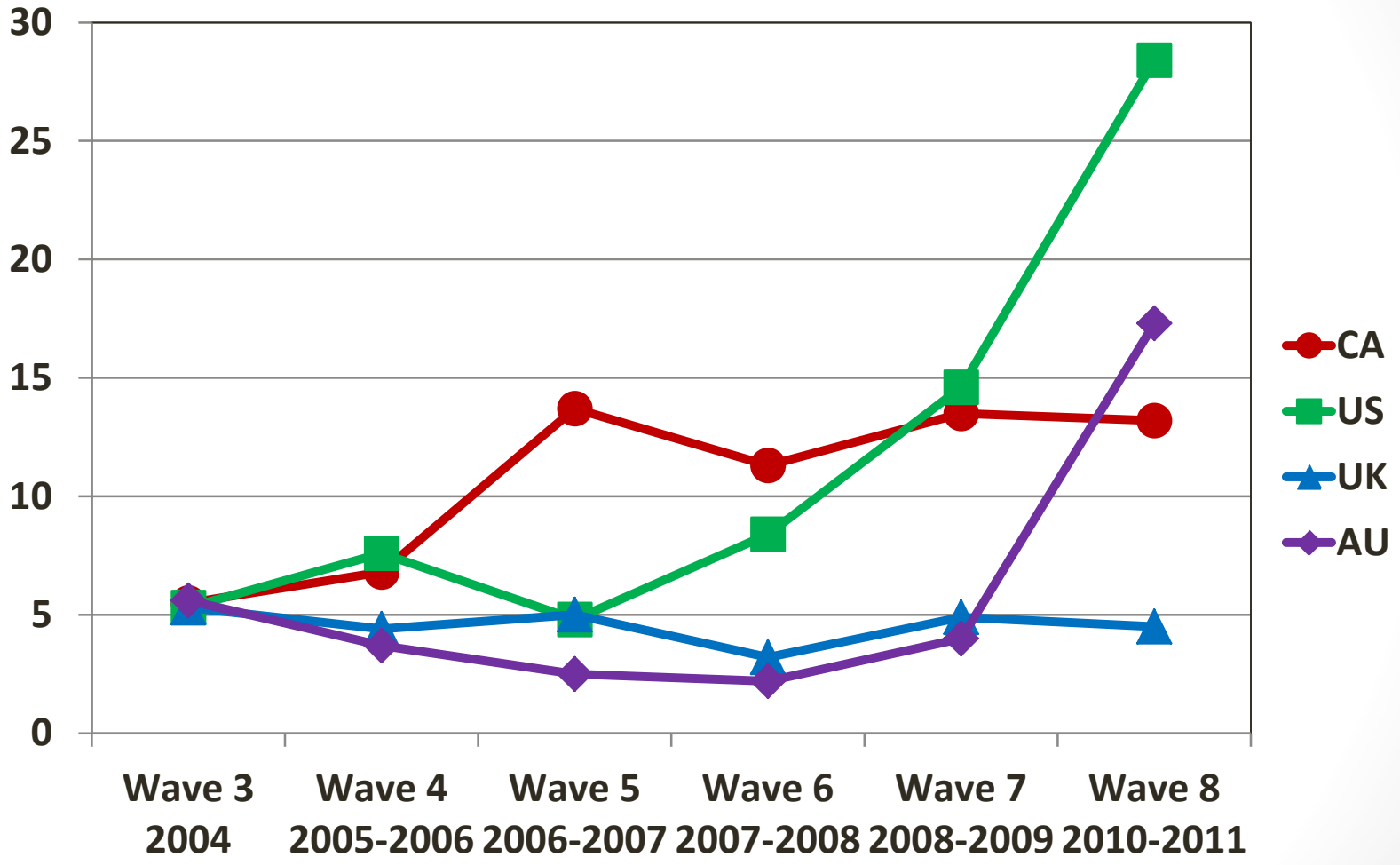


Figure 2: Percent of respondents reporting their cigarettes self-extinguish "often" by country



Cigarettes Smoked Per Day

- RIP safety standards were not associated with changes in the CPD
  - OR: 1.0011 (CI: 0.975-1.048)
- Frequency of self-extinguishment was not associated with CPD
  - Often: OR 0.962 (CI: 0.920-1.005)
  - Sometimes: OR 1.008 (CI: 0.974-1.044)
  - Rarely: OR 1.015 (CI: 0.986-1.045)
  - Never: REF

Models adjusted for age, sex, education, income, ethnicity, cohort, country, time, and intention to quit smoking

Intentions to Quit Smoking

- RIP safety standards were associated with increased odds of intending to quit smoking
  - OR: 1.018* (CI: 1.003-1.034)

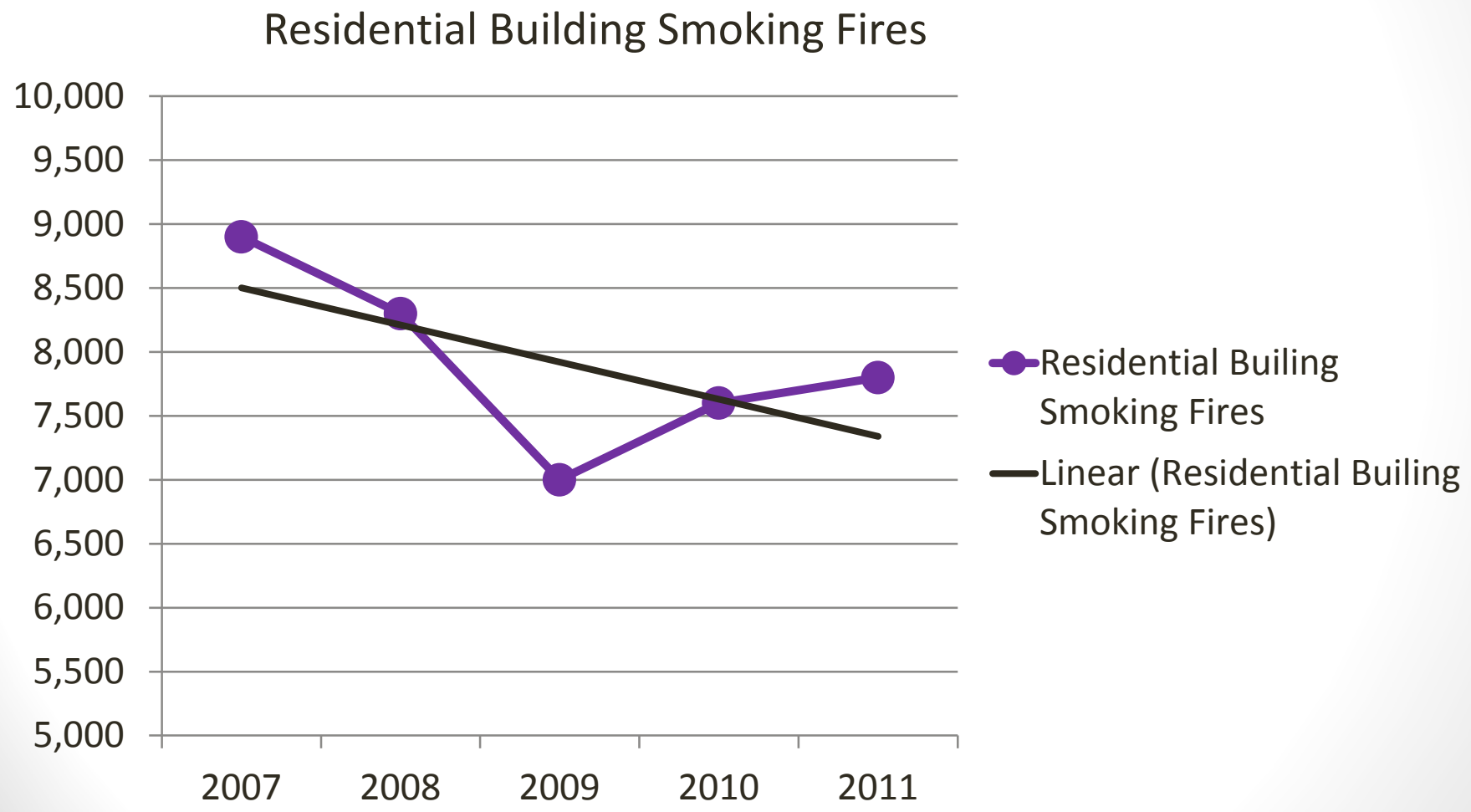
- Frequency of self-extinguishment (reporting cigarettes go out sometimes and often) was associated with intention to quit smoking
  - Often: OR 1.020* (1.002-1.039)
  - Sometimes: OR 1.027*** (CI1.014-1.040)
  - Rarely: 1.007 (CI: 0.991-1.023)
  - Never: REF

Models adjusted for age, sex, education, income, ethnicity, cohort, country, time, and cpd

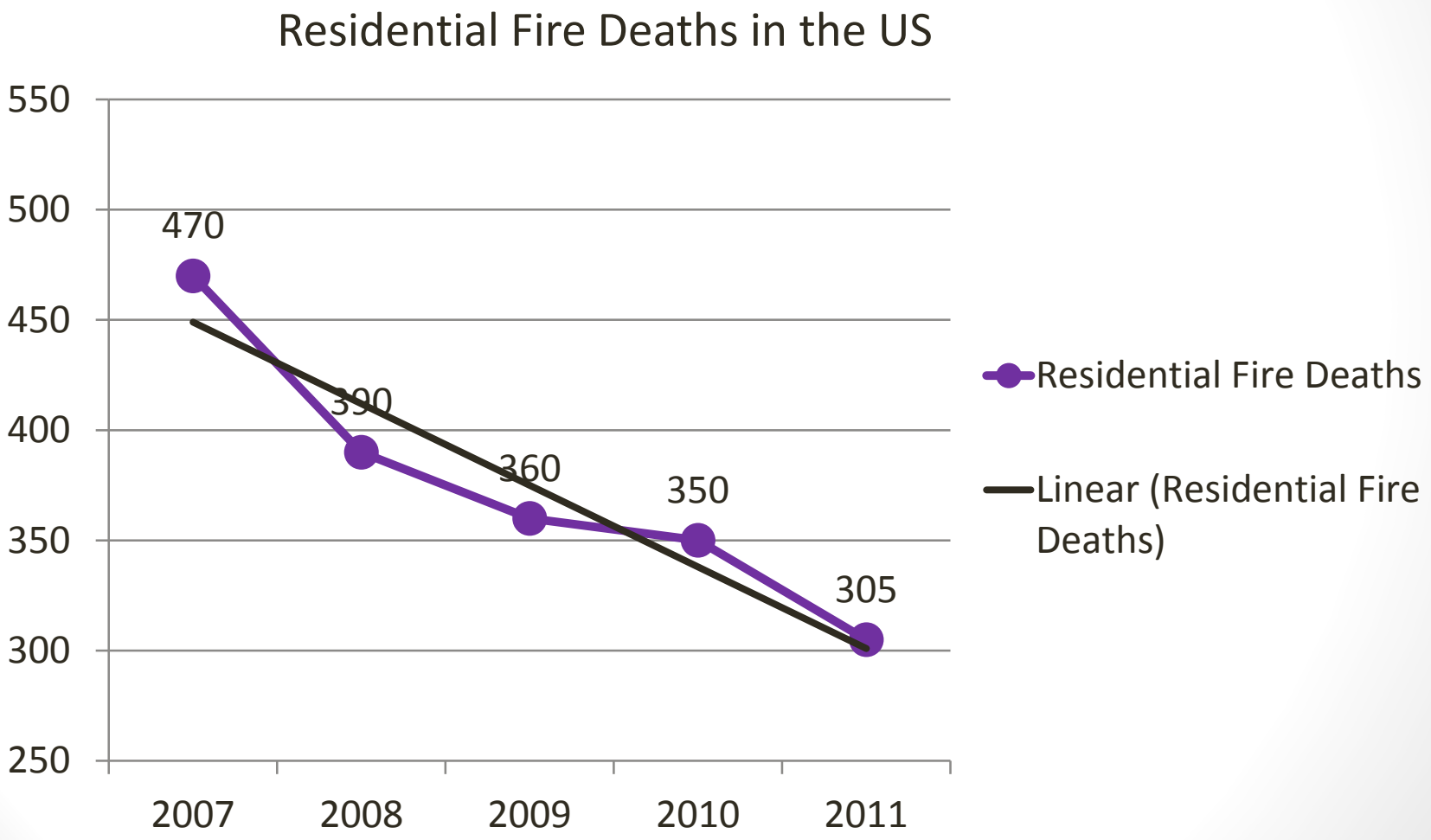
Discussion

- Perceptions of cigarette self-extinguishment and frequency of extinguishment mirrored the pattern of RIP implementation
  - With the exception of Canada in Wave 4
- Intention to quit was higher among those who were more likely to report that their cigarettes self-extinguish sometimes and often
- RIP legislation did not impact respondents number of cigarettes smoked per day

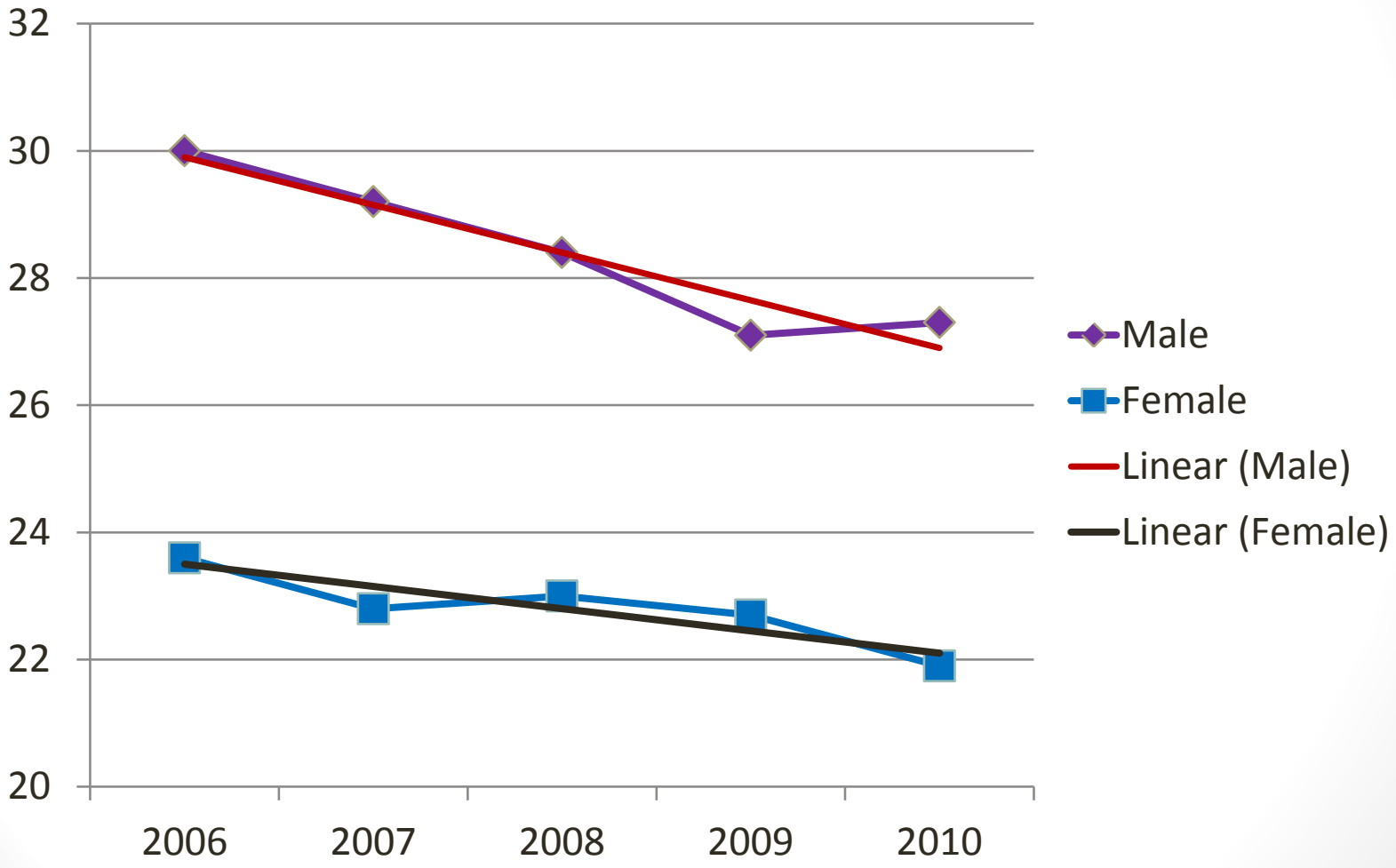
Do RIP standards translate into fewer fires?



Do RIP standards translate into fewer fires?



Smoking Trends



Conclusions

- Broader RIP implementation may significantly reduce the costs associated with cigarette-related fires.

- The jury is still out on whether these standards have their intended effect on substantially reducing the number smoking-related fire deaths

Funding Sources

- The ITC Four Country Project was funded by grants from the US National Cancer Institute (Roswell Park TTURC–P50 CA111236, R01 CA100362), the Canadian Institutes of Health Research (57897, 79551, 115016), Cancer Research UK (C312/A3726), (C312/A6465), (C312/A11039), and (C312/A11943), and the National Health and Medical Research Council of Australia (265903) and (450110). GTF was supported by a Senior Investigator Award from the Ontario Institute for Cancer Research and a Prevention Scientist Award from the Canadian Cancer Society Research Institute.

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