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Smoke-free laws and policies: Pros and cons

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Coverage

1. Preview pros and cons
2. Describe disease toll of second-hand smoke and explain why
3. Review evidence on each pro argument
4. Review evidence on each con argument
5. Conclude with status quo on smoke-free laws and speculation on future

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Pros

- Health benefit; protection of workers
- Protection of rights of nonsmokers to clean air
- Potential economic gains for
 - *Businesses*
 - *Society*
- Fulfills state's constitutional obligation to protect health and welfare of its citizens
- Public strongly supportive
 - *Includes smokers after the fact*

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Cons

- Violation of rights of proprietors to choose
- Perceived economic cost to proprietors
- Violation of freedom of smokers

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Death toll of second-hand smoke (SHS)

- ≈ 50,000 deaths/year in U.S.
 - 3,400 lung cancer (1.15-1.25 RR)
 - 46,000 cardiac-related diseases (1.25-1.3 RR)
 - 430 SIDS

Source: 2006 Surgeon General's Report

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Death toll of SHS (cont'd.)

- Most deadly environmental exposure for most people
- Fourth leading behavior-related cause of death after...
 1. active smoking
 2. diet and physical inactivity
 3. alcohol abuse

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Non-mortality disease toll of SHS in children

- 24,000-72,000 cases of LBW or pre-term
- 202,000 childhood asthma (new cases and exacerbations)
- 150,000-300,000 lower respiratory illness
- 790,000 middle ear infections

Source: 2006 Surgeon General's Report

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Why is the toll of SHS so high?

- Chemical composition of smoke
 - > 4,000 chemical compounds
 - ≈ 50 known human carcinogens



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Selected chemicals in cig. smoke

Acetone (solvent and paint stripper)	Carbon monoxide (poisonous gas in auto exhaust)
Ammonia (powerful and poisonous gas)	Formaldehyde (preservative for dead bodies)
Arsenic (potent ant poison)	Hydrogen cyanide (deadly ingredient in rat poison)
Benzene (poisonous toxin)	Methanol (jet engine and rocket fuel)
Butane (flammable chemical in lighter fluid)	Polonium-210 (radioactive element)
Cadmium (employed in batteries)	Toluene (poisonous industrial solvent)

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Why is the toll of SHS so high?

- Chemical composition of smoke
 - > 4,000 chemical compounds
 - ≈ 50 known human carcinogens
- Level of exposure
 - 43% of nonsmokers had cotinine levels consistent with exposure in 2001-02 (likely fewer now)
 - Especially restaurant wait staff, bar tenders, casino workers
 - Spouses/children of smokers




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Why is the toll of SHS so high? (cont'd.)

- Chemicals in smoke disseminated through blood stream into every organ
- Short-term & long-term effects of exposure
 - Epidemiological studies
 - Animal lab studies
 - Assessment of human responses & body burdens

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Pros: Health benefits of smoke-free policies

- Heart attack hospital admissions ↓ 10-40% following implementation of smoke-free laws
 - ≈ 10 studies worldwide
 - Before-and-after within city/state/country
 - Comparison with neighboring "controls"

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Bonus health benefits of smoke-free policies...for smokers

- Smoke-free workplaces increase quitting \approx 4% compared to workplaces with no restrictions
- Smoke-free workplaces reduce daily consumption of continuing smokers by 3 cigarettes/day



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Protection of rights of nonsmokers to clean air

- Exposures to toxic agents in cig. smoke \downarrow 80-95% after implementation of laws
- QED



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 **Potential economic gains**

- No financial loss associated with adoption of smoke-free laws
 - \approx 100 studies
 - Mostly restaurants; several bars; couple casinos
 - Comparisons with "controls" & before/after

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Potential economic gains (cont'd.)

- Other savings for proprietors
 - Lower cleaning bills
 - Less frequent replacement of sensitive equipment (computers)
- Other savings for state
 - Eliminate loss of convention business
 - Reduced Medicaid expenditures



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Fulfills state's constitutional obligation to protect health and welfare of its citizens




“All political power is inherent in the people. Government is instituted for their equal benefit, security and protection.” Section 1, Article 1, Michigan State Constitution

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Public strongly supportive

- Large majorities favor smoke-free laws
 - Majorities rise to ≈ 90% after implementation (e.g., Ireland)
 - Large majority of smokers approve after implementation



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Cons: Violation of rights of proprietors to choose

- Principal argument against smoke-free laws
 - *Includes argument that employees don't have to work in establishments that permit smoking and customers don't have to patronize them*
- Implies "freedom" to expose employees and customers to arsenic, hydrogen cyanide, polonium-210

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Perceived economic cost to proprietors

- Surveys of proprietors, before laws adopted, find expectation of loss
 - *Nearly all surveys by tobacco industry or its local restaurant association surrogate*
- Objective empirical analyses of actual experience not consistent with fears
 - *Possible exception of casinos...although probably not (Few studies)*

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Violation of freedom of smokers

- True, but a *place* restriction, not a prohibition against smoking
 - *Besides, in choice between conflicting rights, protection of nonsmokers wins*
- Smokers don't complain after laws implemented

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Status quo

- ≈ 30 states nearly 100% smoke-free workplaces, restaurants, & bars
- >12 countries
- Michigan “stymied” by politics
 - *Current official MI govt. policy: Workers & customers in non-smoke-free establishments must inhale benzene & formaldehyde*



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Future of smoke-free workplaces

- Many countries will become smoke-free in near future
- Within 5 years, nearly all states will be smoke-free
 - *Includes Michigan*
 - *Until then, hundreds of Michigan citizens will die prematurely each year due to SHS exposure*

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Thank you!

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