Upholstered Furniture Flammability Standards:

-A Challenge to Public Health and Safety

American Public Health Association
Washington, DC
November 7, 2007

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Central Concern: Reliance on Flame Retardant Chemicals

- Most are toxic in animal studies, are persistent and bioaccumulate
- Some phased out voluntarily or by law
- Huge data gaps re human health and environmental safety for those now used in many consumer products

Potential Health Effects of Flame Retardant Chemicals

- Neurodevelopment
- Endocrine disruption
- Reproductive system effects
- Immune suppression
- Carcinogenicity

Upholstered Furniture Flammability Standards and Fire Retardant Chemicals

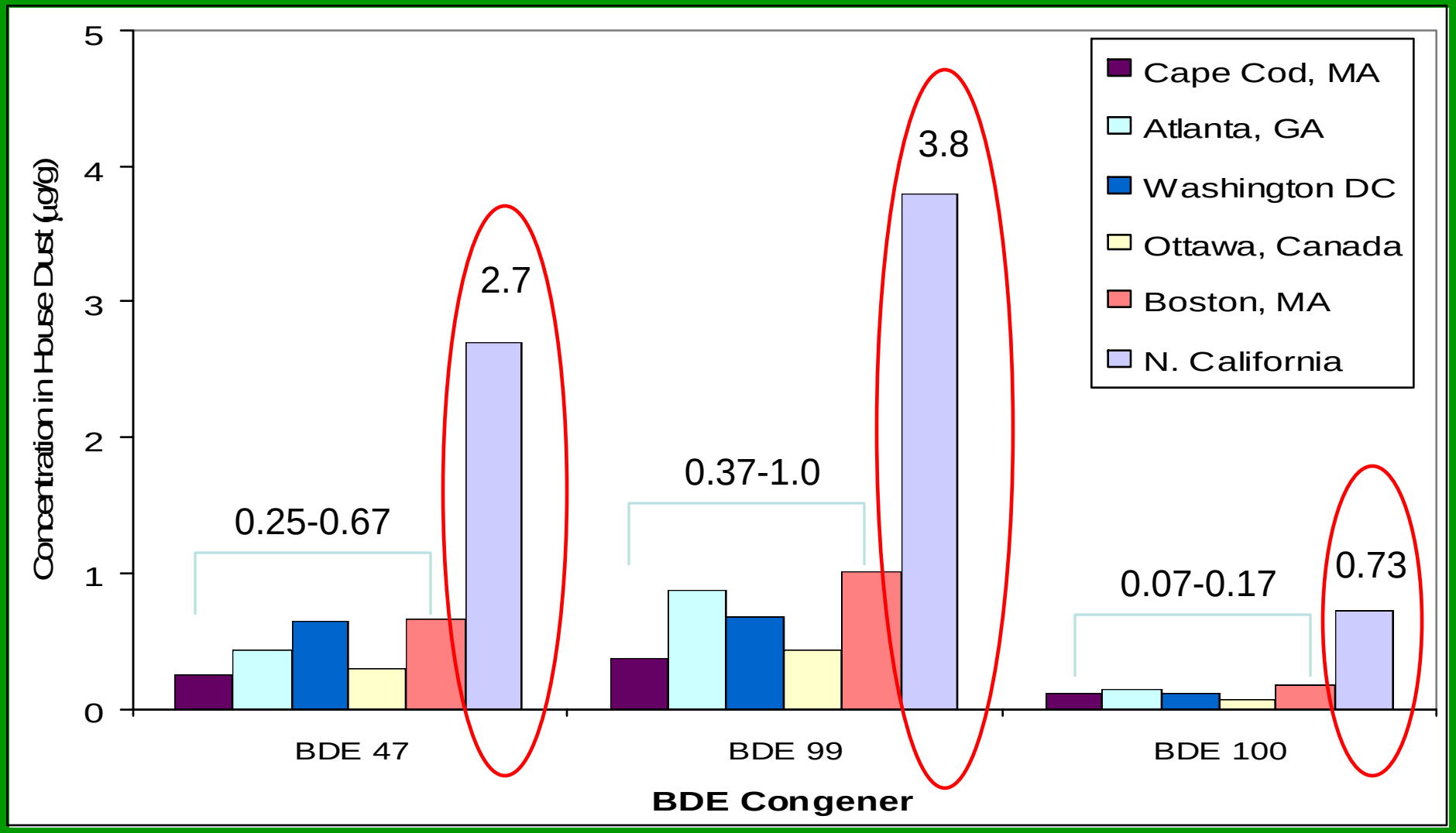
1975- California sets open flame standard (TB 117)

1980s- PBDE's introduced as fire retardants

2004- Manufacturers stop using PBDE'S, substitute other potentially toxic chemicals

2006- CA AB 706 seeks change in TB 117 banning the most toxic FR chemical families

Median PBDE household dust concentrations across 6 regions in North America



Upholstered Furniture Flammability Standards: The Current Battlegrounds

- State legislatures
  - **Bans on current FR chemicals (CA) (vs.)**
  - **Efforts to extend CA flammability standard to bed clothing and pillows**
- **Congress: CPSC Reform** Bill of 2007
- Consumer Products Safety Commission

American Public Health Association Consensus Resolution - 1994

- “Virtually all organochlorides that have been studied exhibit one or more serious toxic effects such as endocrine dysfunction, developmental impairment, birth defects, reproductive dysfunction immunosuppression and cancer, often at extremely low doses”

Upholstered Furniture Flammability Standards

Groups Concerned About Persistence, Bioaccumulation and Toxicity of FR Chemicals in Consumer Products

- Environmental groups
- Consumer organizations
- Public health professionals
- Biological scientists
- Fire service organizations

Upholstered Furniture Fire Deaths (First item ignited: 1999-2003)

	99	00	01	02	03	AVG
Open Flame	30	120	50	30	20	-50
Smok. Mat.	330	340	280	200	310	-290
Other/Unk.	50	120	290	230	230	-190
TOTAL	410	580	620	460	560	-530

(Source: National Fire Protection Association, 2006)

National Fire Incident Reporting System (NFIRS)

-38% of 33T fire departments participate

-40% of reported fires not cause-coded

-Varying background of assigned coder

-Limited data oversight at higher level

=*Not reliable for detailed estimates*

Targets of Upholstered Furniture CPSC Flammability Standards

-Smoldering cigarettes

-Small open flames

(lighters, matches, small candles)

(Fires beginning elsewhere not addressed)

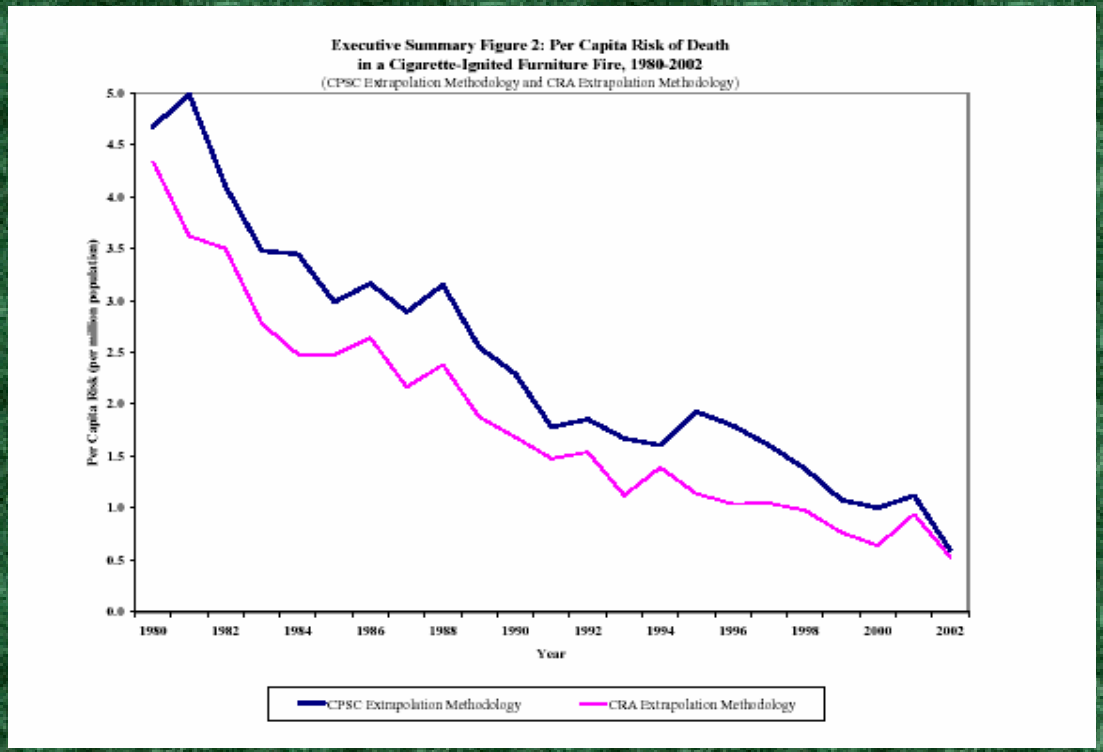
Rate of Decline in Fire Deaths, comparing California to states without upholstery standard

1980-84 cf. 1995-99

New York	40%	**California**	**32%**
Illinois	39%	Florida	31%
Ohio	39%	Pennsylvania	31%
Texas	33%	Michigan	30%

(Source: National Fire Protection Association, 2006 Report)

Cigarette Risks



April 2007

Toxic Substances Control Act (TOSCA)

- 62,000 substances grandfathered (95%)
- 20,000 introduced since 1979 not subject to health/NVR impact data requirements
- 5 original chemicals currently regulated
- Asbestos regs. overturned in court (1990)
- EPA reluctant to attempt further regulation because of burden of proof requirements

Brominated Tris

- Used to flame retard children's sleepwear in the 1970's: contained an impurity and a metabolite known to be carcinogenic in 1973.
- Banned from children's sleepwear in 1977.

- Now the related fire retardant chlorinated tris is the second most used fire retardant in furniture.

Potential Routes of Exposure

- Ingesting contaminated food, esp. fish
- Occupational exposure
  (manufacture, firefighting, disposal)
- Inhaling or ingesting dust particles
- Absorption across placenta or in breast milk (200 hydrocarbons have been found in breast milk, in forms dangerous at low doses)

“Kids are not little adults”

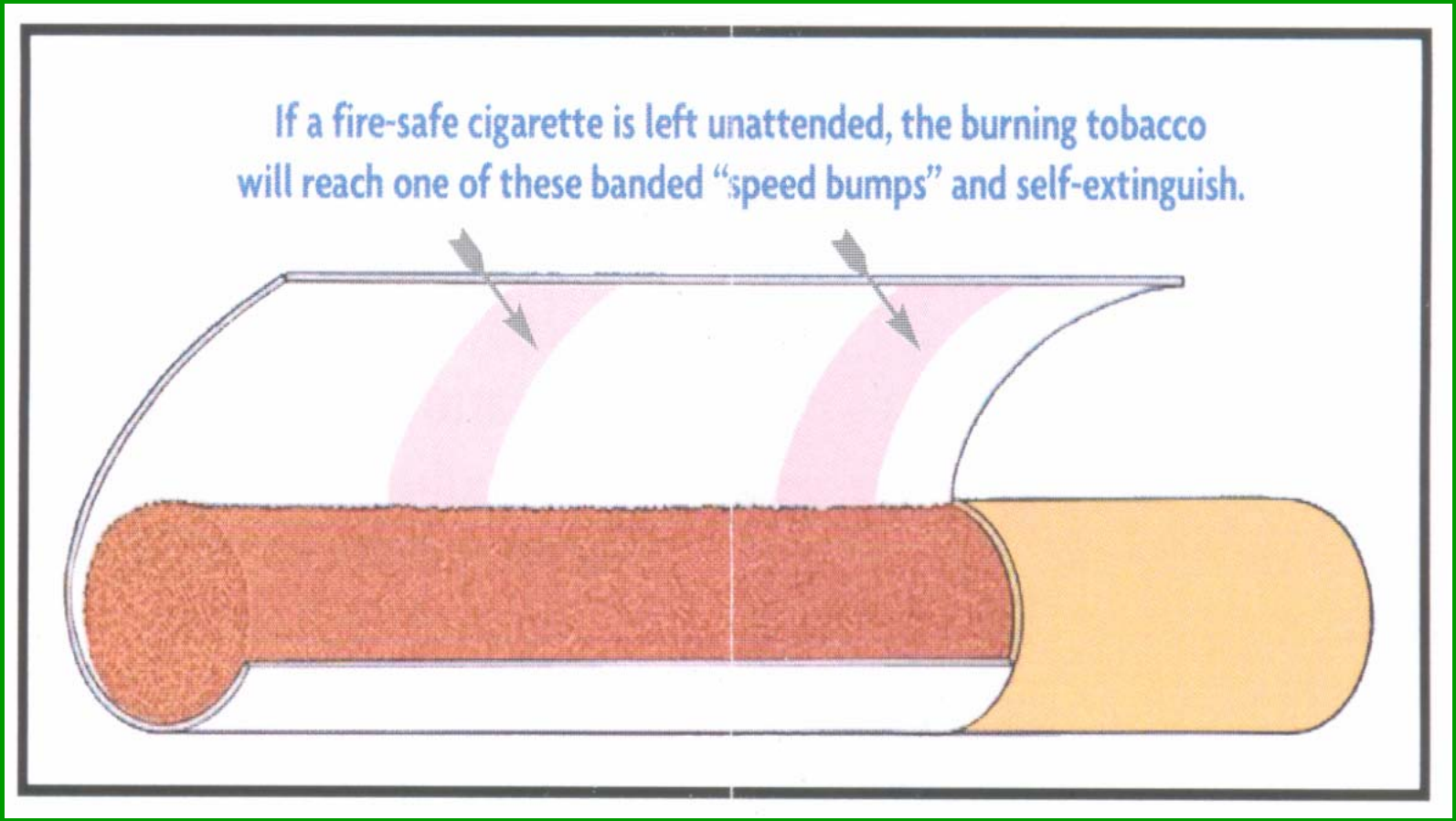
Children, especially ages 0-4

- Breathe proportionately more air
- Consume more air, water cf. body weight
- Spend more time outside, near ground
- Altered pharmacokinetics re toxicants
  - **Increased absorption**
  - **Altered distribution through the body**
  - **Altered metabolism**

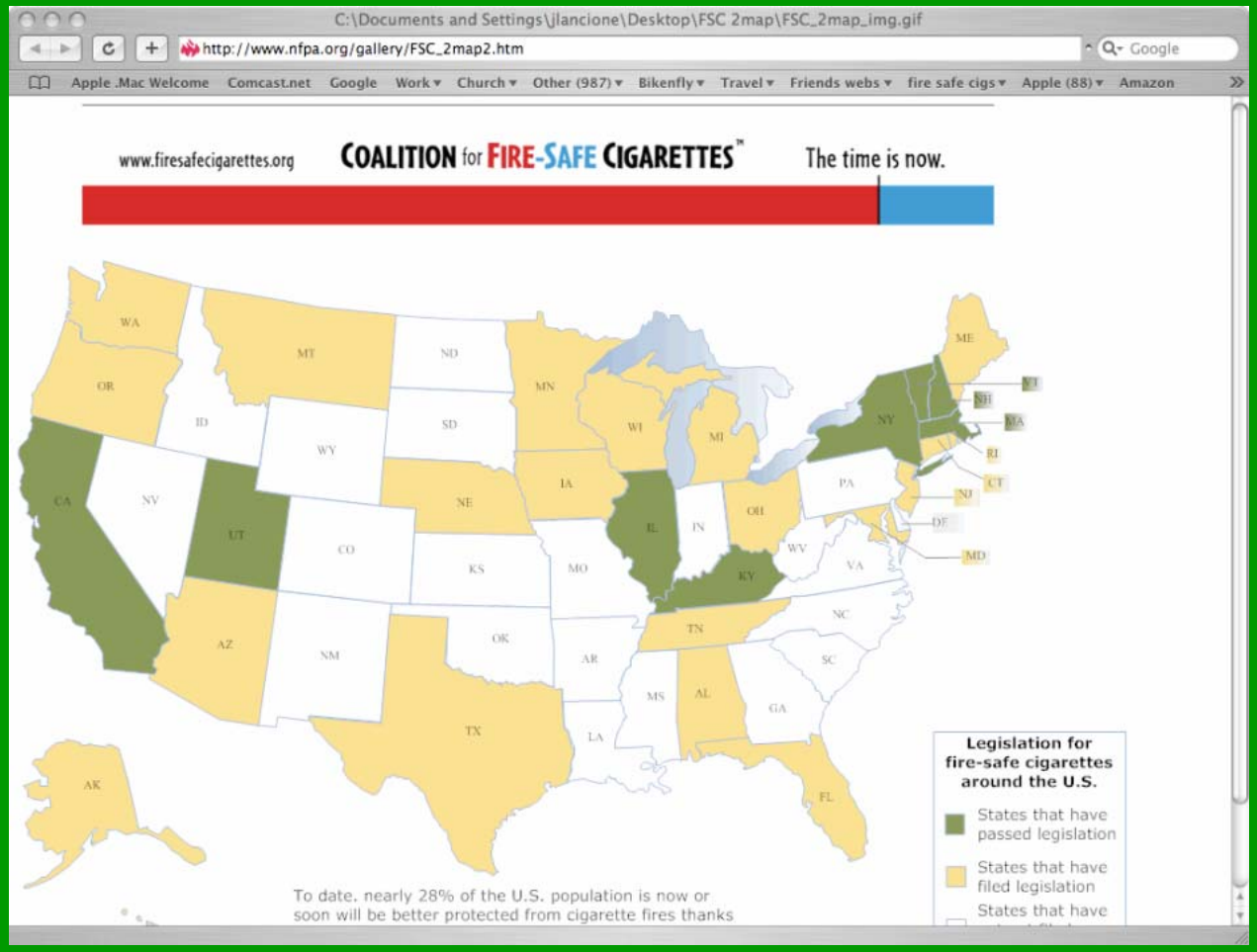
Alternatives to FR Chemicals

- Expanded use of smoke detectors,
  residential sprinklers
- New furniture designs
- Alternative chemicals which break down
  into more natural components
  when migrating from original product
- “Cradle to cradle” product design

Fire-safe cigarette technology



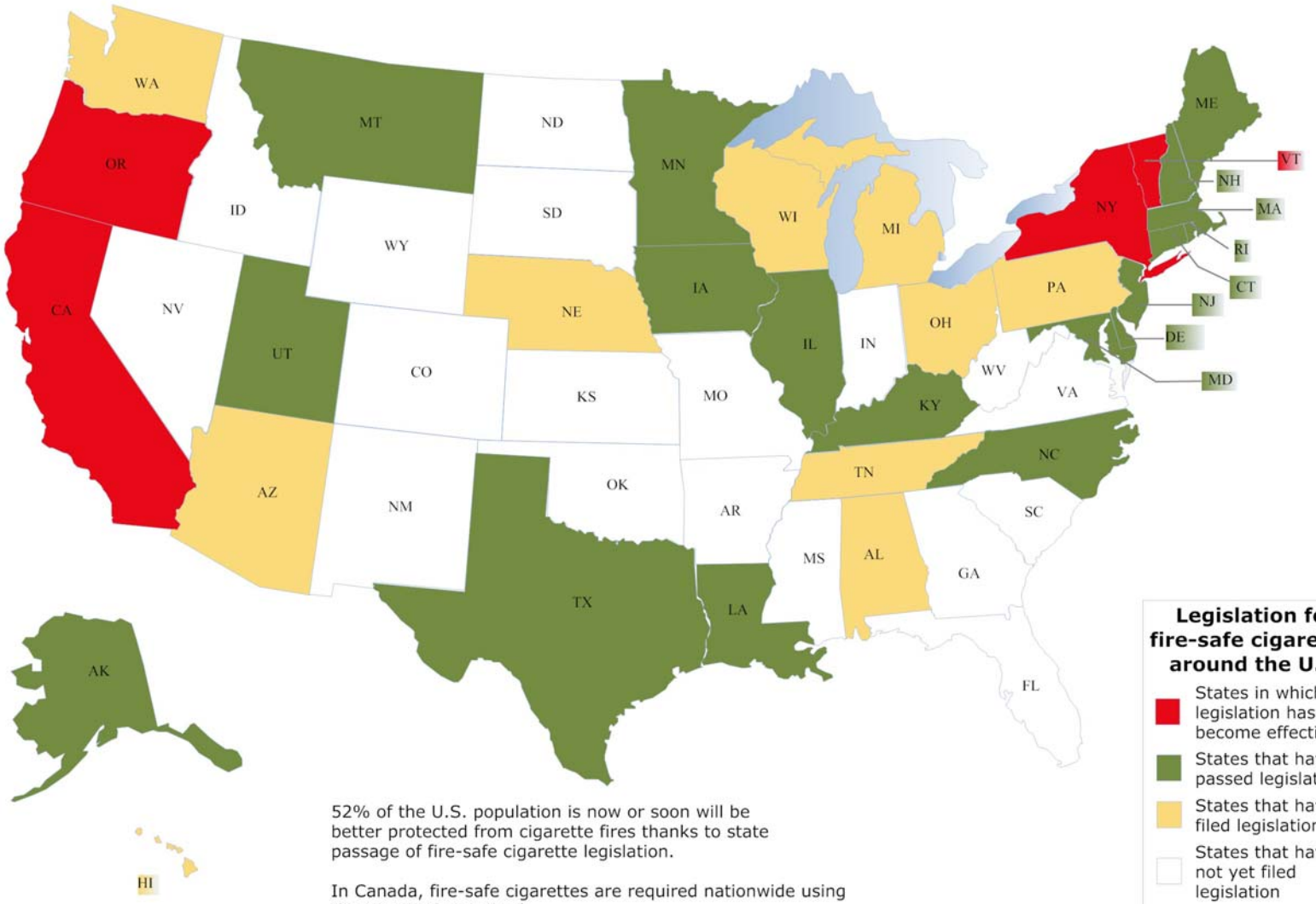
April 18, 2007: Nine laws enacted



www.firesafecigarettes.org

COALITION for FIRE-SAFE CIGARETTES™

The time is now.



52% of the U.S. population is now or soon will be better protected from cigarette fires thanks to state passage of fire-safe cigarette legislation.

In Canada, fire-safe cigarettes are required nationwide using the New York standard.

Click on any state to learn more.

October, 2007

- 22 state fire-safe cigarette laws enacted, 16 in 2007
- FSC standard in effect in 5 states
- Laws now cover 52% of US population
- Bills introduced in 9 other states
- RJ Reynolds announces it will soon adopt "fire-safe" technology for all brands
- Philip Morris et al likely to follow suit

Fire-safe Cigarette vs. Upholstered Furniture Standard

1. Technical and Economic Feasibility

Federal studies proved fire-safe cigarettes can be produced without adding new chemicals

(vs.)

No proof upholstered furniture standard can be met without using FR chemicals.

Fire-safe Cigarette vs. Upholstered Furniture Standard

2. Method of Meeting Standard

"Speed bumps", no new chemicals

(vs.)

Proposed federal standard would require adding an estimated 17 to 70 million pounds of FR chemicals

Fire-safe Cigarette vs. Upholstered Furniture Standard

3. Current Estimate of Fire Deaths

Cigarettes: Significant total (600+)

(vs.)

Upholstered furniture (by open flame):

Small, unreliable estimate (30-50 deaths)

Fire-safe Cigarette vs. Upholstered Furniture Standard

4. Rate of Change

Cigarette stocks renew every 3-6 months

(vs.)

Upholstered Furniture is purchased by only 2-5% of households each year

Fire-safe Cigarette vs. Upholstered Furniture Standard

5. Support for Furniture Standard

Broad alliances support FSC laws
(burn centers, fire service, consumers)
(vs.)
Flame retardant chemical industry
initiates, sponsors lobbying efforts

Conclusions

- **Basic truths:**
  - **Cigarette hazard will continue to shrink**
  - **Hazardous chemical burden increasing, and is better understood**
  - **There is time to develop alternative ways to improve fire safety in consumer products**

Public Health Action Steps

1. Urge CPSC to withdraw proposed cigarette and open flame flammability standards for upholstered furniture

-inadequate demonstration of need

-hazard of fire retardant chemicals

-ongoing decline in cigarette hazard

Public Health Action Steps

2. Promote similar action by colleagues:

- APHA action (based on resolution)
- Children's health and other more specific professional organizations
- Health and science faculties in Departments and Schools of Public Health
- Environmental Advocacy Groups