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SUR LE TABAC
DE L'ONTARIO

Putting Thirdhand Smoke on the Policy and Research Agenda

OTRU Workshop

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<http://www2.massgeneral.org/ceasetobacco/images/Today%20show%20cropped.mpg>



Thirdhand Tobacco Smoke: Emerging Evidence and Arguments for a Multidisciplinary Research Agenda

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BACKGROUND: There is broad consensus regarding the health impact of tobacco use and secondhand smoke exposure, yet considerable ambiguity exists about the nature and consequences of thirdhand smoke (THS).

OBJECTIVES: We introduce definitions of THS and THS exposure and review recent findings about constituents, indoor sorption-desorption dynamics, and transformations of THS; distribution and persistence of THS in residential settings; implications for pathways of exposure; potential clinical significance and health effects; and behavioral and policy issues that affect and are affected by THS.

DISCUSSION: Physical and chemical transformations of tobacco smoke pollutants take place over time scales ranging from seconds to months and include the creation of secondary pollutants that in some cases are more toxic (e.g., tobacco-specific nitrosamines). THS persists in real-world residential settings in the air, dust, and surfaces and is associated with elevated levels of nicotine on hands and cotinine in urine of nonsmokers residing in homes previously occupied by smokers. Much still needs to be learned about the chemistry, exposure, toxicology, health risks, and policy implications of THS.

CONCLUSION: The existing evidence on THS provides strong support for pursuing a programmatic research agenda to close gaps in our current understanding of the chemistry, exposure, toxicology, and health effects of THS, as well as its behavioral, economic, and sociocultural considerations and consequences. Such a research agenda is necessary to illuminate the role of THS in existing and future tobacco control efforts to decrease smoking initiation and smoking levels, to increase cessation attempts and sustained cessation, and to reduce the cumulative effects of tobacco use on morbidity and mortality.

KEY WORDS: aggregate exposures, biomarkers, cumulative exposure, exposure, housing, nicotine, policy, secondhand smoke, tobacco smoke. *Environ Health Perspect* 119:1218–1226 (2011). <http://dx.doi.org/10.1289/ehp.1103500> [Online 31 May 2011]

in THS-polluted environments and to help smokers to better understand the risks their smoking brings to others. Perhaps a better understanding of THS and the associated risks to nonsmokers, stricter norms and attitudes, and economic and social contingencies will motivate nonsmokers not to start and prompt addicted smokers to quit. We propose that the “bench to bedside to population” approach of translational research will be useful in guiding research on THS and in fostering translation of findings to protect public health (National Institutes of Health 2009).

We review the emerging evidence on THS and outline the case for an interdisciplinary research effort. The existing evidence provides strong support for pursuing a programmatic research agenda on THS to fill important gaps in our current understanding of the short- and long-term effects of involuntary exposure to tobacco smoke. We begin with brief definitions of THS and THS exposure. We then present a review of recent findings on the chemistry of THS, its persistence in indoor environments, implications for

Matt et al., 2011

Conclusion

... existing evidence on THS provides strong support for pursuing a programmatic research agenda to close gaps in our current understanding of the chemistry, exposure, toxicology, and health effects of THS, as well as its behavioral, economic, and sociocultural considerations and consequences.

Matt et al., 2011

Conclusion

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OTRU

- Policy research on smoking and exposure to tobacco smoke in public and private places
 - ◆ SHS in bars and restaurants
 - ◆ SHS in outdoor public spaces
 - ◆ SHS at entrances to buildings
 - ◆ SHS & THS in taxis (pilot work)
 - ◆ Smoke-free policies in affordable housing (underway)
 - ◆ THS research agenda to inform policy in Canada?

OTRU Project Team

- Investigators
 - Pamela Kaufman, PhD (PI)
 - Roberta Ferrence, PhD
 - Marilyn Pope, MSc
 - Bo Zhang, MSc
- Admin Support
 - Marian Smith (admin support)
 - Lynn Tyndall (admin support)

CIHR - Dissemination Events Grant



To hold an international, multi-disciplinary expert panel to synthesize and disseminate evidence on thirdhand smoke to knowledge users in science, medicine, public health and policy

1. Achieve consensus on current evidence
2. Identify knowledge gaps and opportunities
3. Identify implications for public health policy

Project Process

Planning

- Identify experts
- Teleconferences
- Knowledge needs survey

Workshop

- Existing/emerging research
- Canadian policy context
- Onsite, webcast & archive

Expert Panel Meeting

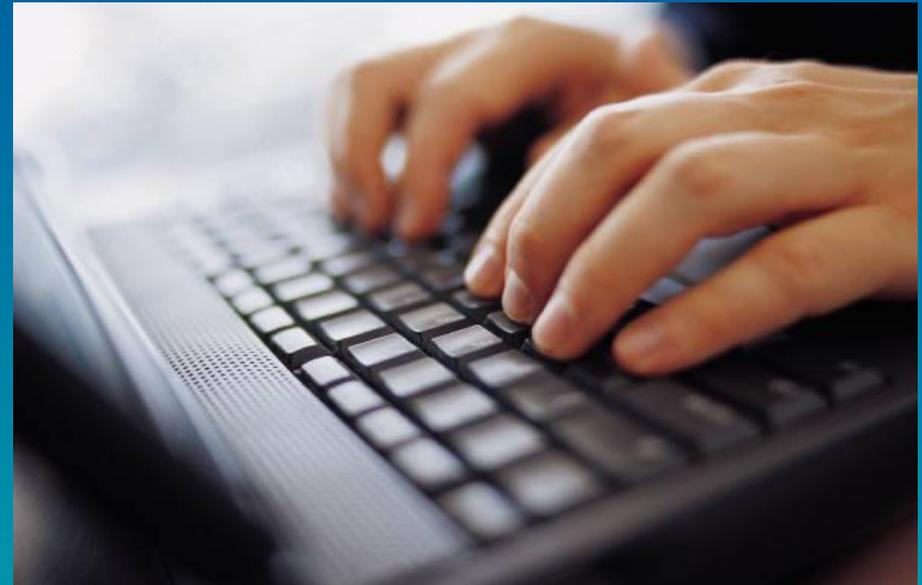
- Consensus on evidence
- Gaps & opportunities
- Implications for PHP

Disseminate Outcomes

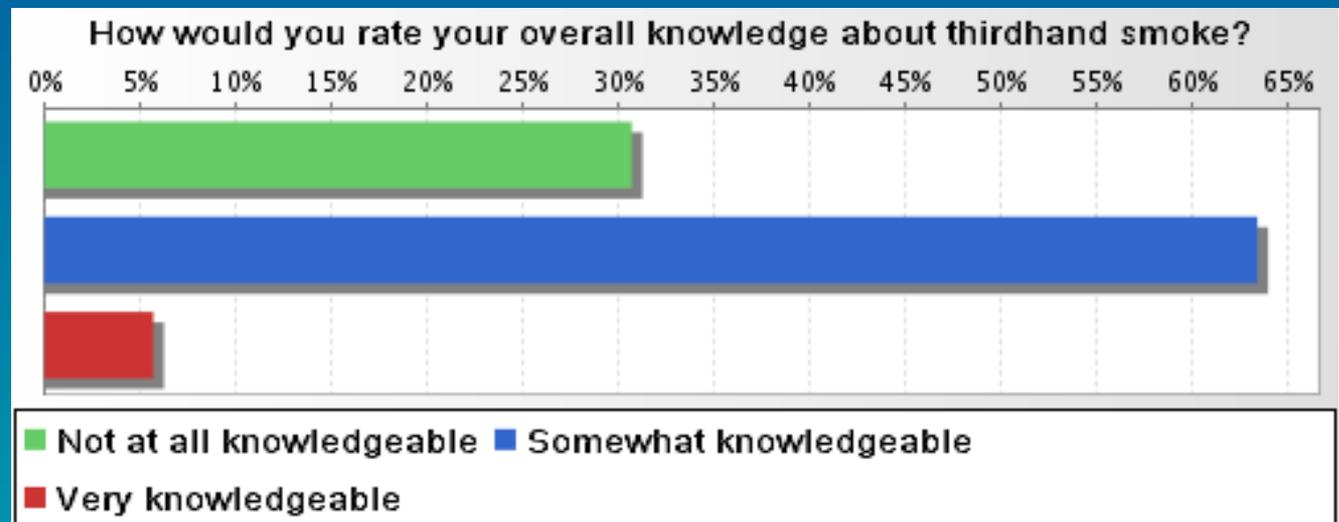
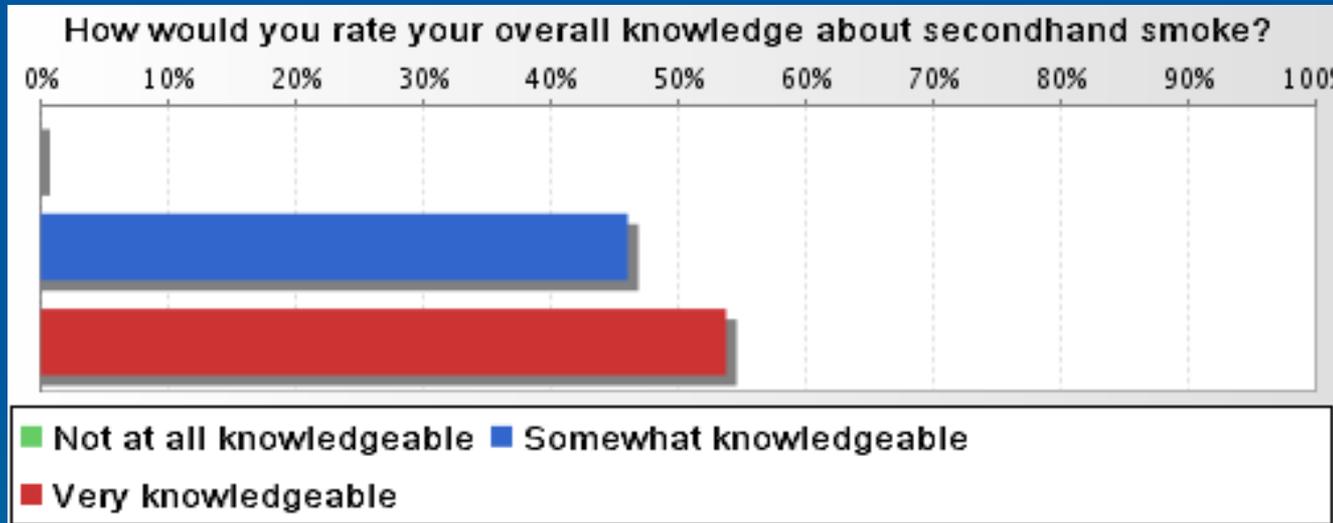
- Follow-up survey
- Panel report

Knowledge Needs Survey

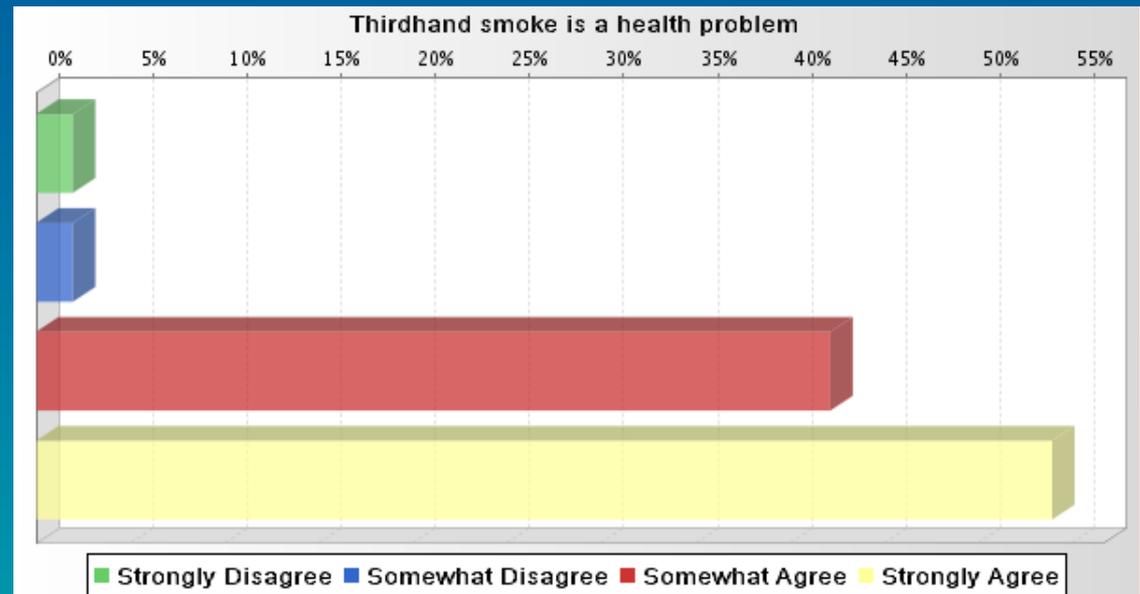
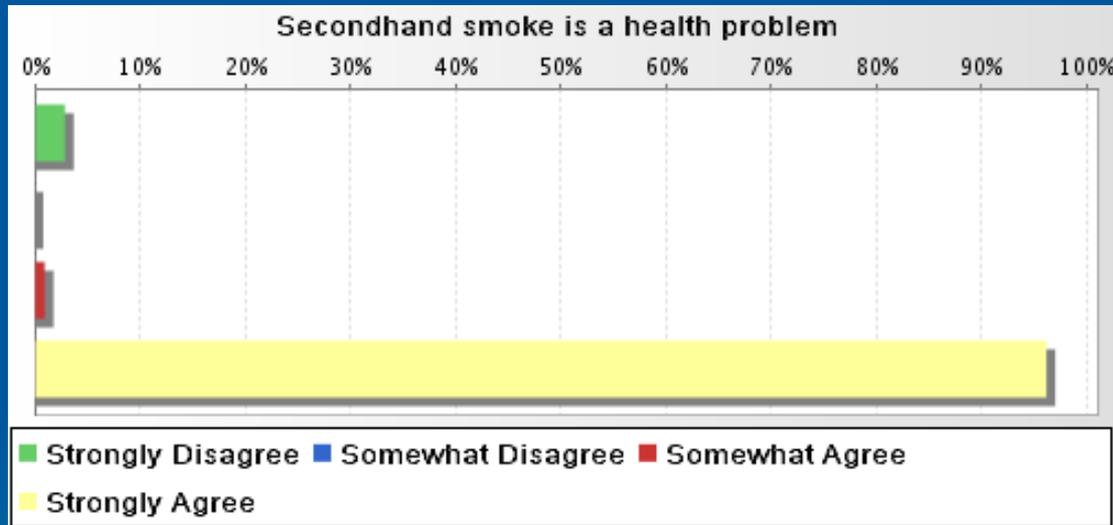
- 104 respondents
 - Most public health practitioners (59%)
 - 14% Research/academia
 - 13% government/ regulatory agency
 - 7% advocacy



Knowledge About THS & SHS?



SHS & THS is a Health Problem?



Knowledge Needs

Knowledge Area	N=235
Evidence about THS health implications, risks	69 (29%)
Policy implications	34 (14%)
Chemistry (measurement, toxins, mechanism, duration, etc.)	31 (13%)
Interventions (cleaning, elimination, protection, etc.)	30 (13%)
Resources (education, information, tool kits)	21 (9%)
Population health (children vs adults, vulnerable populations)	16 (7%)
Definition of THS	13 (5%)
THS vs SHS	9 (4%)
Housing (MUDs, selling)	7 (3%)
THS in workplace (incl. cars)	5 (2%)
Legal concerns	4 (2%)
Other (cessation, traditional tobacco, marijuana, cigars, pipes)	3 (1%)

Expert Panel

- Overview of Thirdhand Smoke
 - Georg Matt PhD
 - ◆ San Diego State University
 - ◆ Expert Panel Chair

- Measuring Thirdhand Smoke
 - Lara Gundel PhD & Hugo Destailats PhD
 - ◆ Lawrence Berkeley National Laboratory

Expert Panel

- Human Exposure Pathways
 - Neal Benowitz MD
 - ◆ University of California, San Francisco
 - Jonathan Winickoff MD
 - ◆ Harvard Medical School
- Role of Thirdhand Smoke in Tobacco Control
 - Mel Hovell PhD & Thomas Novotny MD
 - ◆ San Diego State University

Expert Panel

- Canadian Policy Context
 - Roberta Ferrence PhD
 - ◆ Ontario Tobacco Research Unit
 - Geoffrey Fong PhD
 - ◆ U Waterloo & Ontario Institute of Cancer Research
 - Ryan David Kennedy PhD
 - ◆ Propel Centre for Population Health Impact, University of Waterloo
 - Lorraine Fry
 - ◆ Non-Smokers' Rights Association (NSRA) and Smoking and Health Action Foundation (SHAF)

What is Thirdhand Smoke?

