

Electronic Cigarettes

E-cigarette aerosol is not harmless “water vapor”,
and it is not as safe as clean air



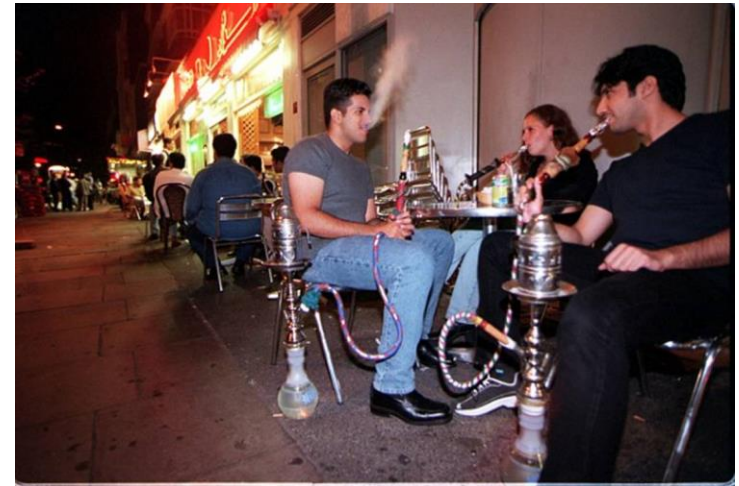
Electronic Cigarette vs. Conventional Cigarette

Toxicant	Range in Content in Aerosol from 12 E-Cigarette Samples per 15 Puffs	Range in Content in Conventional Cigarette Micrograms in Mainstream Smoke from 1 Cigarette
Formaldehyde	0.2-5.61	1.6-52
Acetaldehyde	0.11-1.36	52-140
Acrolein	0.07-4.19	2.4-62
O-Methylbenzaldehyde	0.13-0.71	-
Toluene	ND-0.63	8.3-70
P,m-xylene	ND-0.2	-
NNN	ND-0.00043	0.0005-0.19
NNK	ND-0.00283	0.012-0.11
Cadmium	ND-0.022	-
Nickel	0.011-0.029	-
Lead	0.003-0.057	-

Goniewicz et al. (2015). Levels of selected carcinogens and toxicants in vapor from electronic cigarettes. *Tobacco Control*, 133-139.

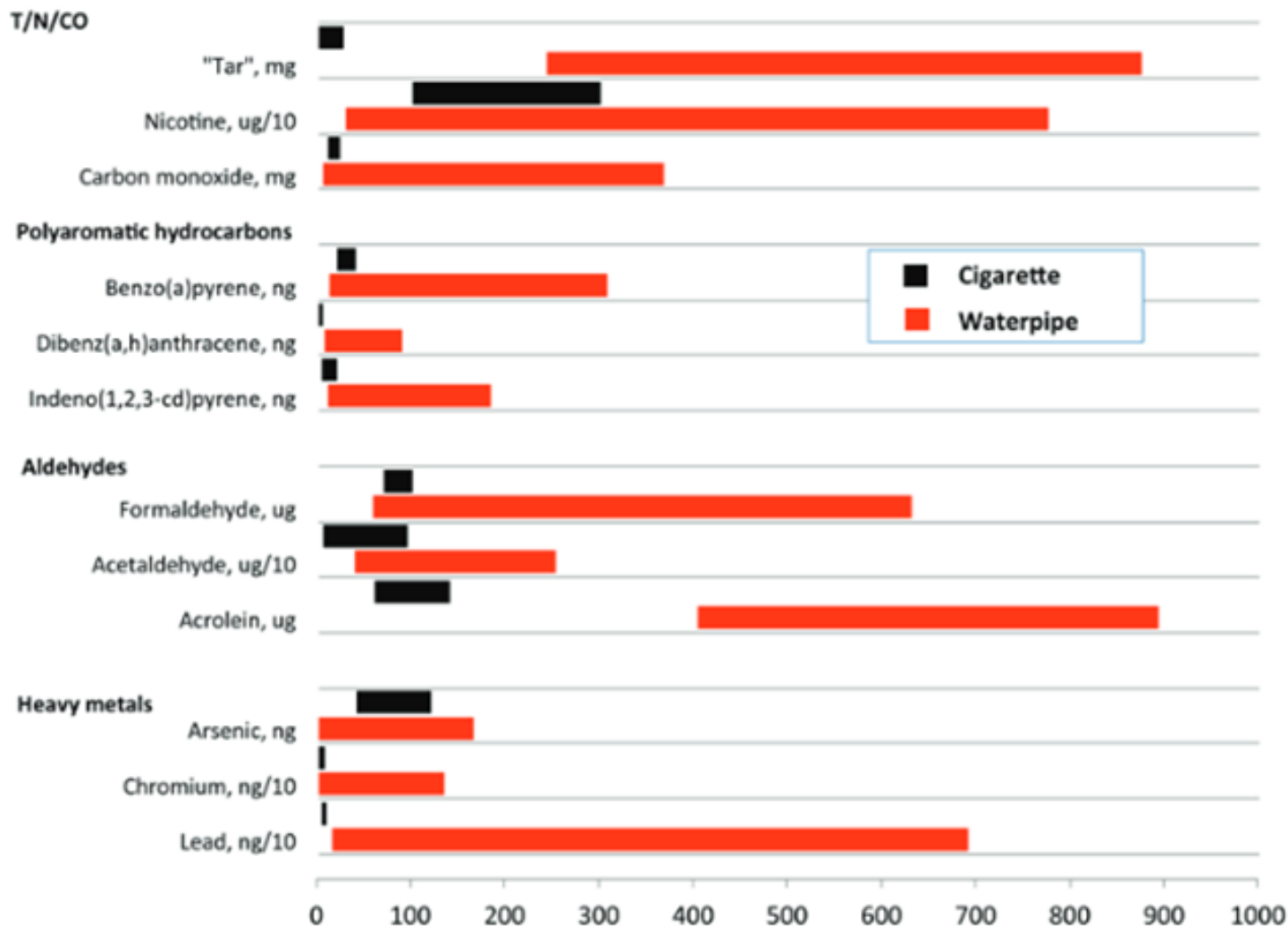
Hookah

- Tobacco hookah included in 2007 Ordinance
- Herbal blends contain harmful carbon monoxide, heavy metals and particular matter
- 7 establishments identified in Louisville Metro
 - 6 have an active food permit
 - 3 allow patrons of all ages to enter and dine, including children
 - All 7 already have outdoor space



Hookah vs. Conventional Cigarette

Reported ranges of toxicants produced during a single 1-h session of waterpipe use (in red) and from a single cigarette (in black)



Chemicals and Health Concerns

Chemical	Health Impact	Traditional Cigarettes	Electronic Cigarettes	Hookah
Tar	Main cause of lung and throat cancer in smokers	X		Tobacco varieties
Nicotine	Addictive component, cardiovascular diseases	X	Some	Tobacco varieties
Carbon monoxide	Increases the chance of cardiovascular diseases	X		X
Benzo(a)pyrene	Probable cancer causing agent	X	X	X
Propylene glycol	Eye and lung irritant		X	
Indeno(1,2,3-cd)pyrene	Probable cancer causing agent	X	X	X
Formaldehyde	Carcinogen	X	X	X
Acrolein	Powerful irritant	X	X	X
Acetaldehyde	Volatile organic compound	X	X	X
Arsenic	Carcinogen	X	X	X
Chromium	Carcinogen	X	X	X
Lead	Probable cancer causing agent	X	X	X

Agency for Toxic Substances and Disease Registry. (2013, December 10). *Polycyclic Aromatic Hydrocarbons (PAHs) What Health Effects Are Associated With PAH Exposure?* Retrieved from Environmental Health and Medicine Education: <https://www.atsdr.cdc.gov/csem/csem.asp?csem=13&po=11>

Goniewicz et al. (2015). Levels of selected carcinogens and toxicants in vapor from electronic cigarettes. *Tobacco Control*, 133-139.

World Health Organization. (2015). *Advisory Note: Waterpipe Tobacco Smoking: Health Effects, Research Needs and Recommended Actions by Regulators*. Geneva: WHO Document Production Services.

Health Concerns for Non-Users

- No safe level of exposure to secondhand smoke/vapor
- Health concerns:
 - Eye irritation
 - Ear infections
 - Lung irritation
 - Asthma
 - COPD
 - Heart attack
 - Stroke
 - SIDS
 - Cancers



Support for Amending the Smoke-Free Ordinance

Local, state, national, and worldwide health and advocacy organizations already support this step



INSTITUTE FOR HEALTHY
AIR WATER & SOIL



Humana.



LOUISVILLE, KENTUCKY
LOUISVILLE METRO BOARD OF HEALTH



AMERICAN LUNG ASSOCIATION.
IN KENTUCKY

Smoke-Free Ordinance Evolution

- Prohibits smoking tobacco in **ALL** indoor public places and worksites
- Exemptions were found to be unconstitutional
- Initial business concerns → business advantage



Smoke-Free Ordinance Amendment

- ***SMOKE* or *SMOKING*.** The act of inhaling, ~~or~~ exhal~~ing~~, ~~the smoke~~ from any lighted cigarette, cigar, or pipe, or other combustible tobacco product. burning, or carrying any lighted or heated cigar, cigarette, or pipe, or any other lighted or heated tobacco or plant product intended for inhalation, including hookahs and marijuana, whether natural or synthetic, in any manner or form. Smoking also includes the use of an electronic smoking device or the use of any oral smoking device for the purpose of circumventing the prohibition of smoking in the Article.
- Provides businesses 90 days from its passage and approval to comply

Summary

- Electronic cigarettes and herbal hookah:
 - Pollute indoor air
 - Expose non-users to harmful chemicals
 - Create confusion and can undermine enforcement efforts
- A revised ordinance, without exemptions, would:
 - Promote clean and smoke-free indoor public environments
 - Improve health

