



# Electronic Cigarettes and Hookah: Effects on Indoor Air Quality and the Smoke-Free Ordinance

**Sarah Moyer, MD, MPH**  
Medical Director

**Matt Rhodes, MPH, RS**  
Deputy Director



DEPARTMENT OF  
**PUBLIC HEALTH  
AND WELLNESS**



# 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	-

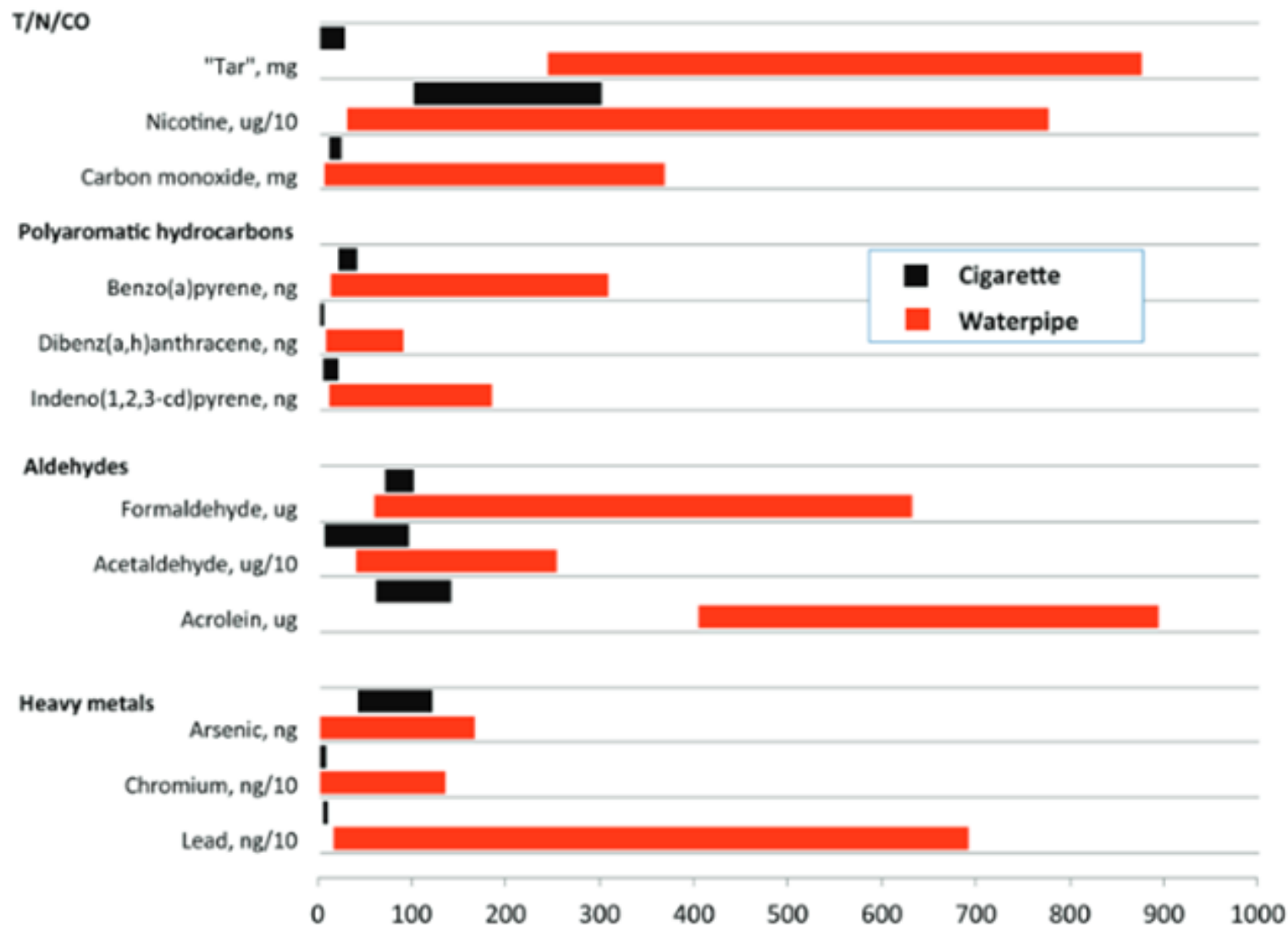
# Hookah

- A typical hour-long hookah smoking session is the equivalent to smoking 100 cigarettes
- Tobacco-based hookah vs. herbal blends
- 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)



# Health Concerns for Non-Users

- Second and third hand exposure
- 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



LOUISVILLE, KENTUCKY  
LOUISVILLE METRO BOARD OF HEALTH



# Smoke-Free Ordinance Evolution

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





# Smoke-Free Ordinance Amendment

- AN ORDINANCE AMENDING CHAPTER 90 OF THE LMCO RELATING TO THE PROHIBITION OF SMOKING IN DESIGNATED AREAS (AS AMENDED)
- The proposed revision to the Ordinance would expand the definition of smoking and would read as follows:
  - “Smoking means inhaling, exhaling, 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 which creates an aerosol or vapor, in any manner or in any form, 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 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
  - Work towards achieving Healthy Louisville 2020 goals related to reducing exposure to smoking related health hazards and reducing exposure to environmental health hazards

