

# PAHs in the Indoor Environment: A Review

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# Where is PAH?

280

*KING LEAR*

[ACT IV, SC. VI.]

Beneath is all the fiends';  
There's hell, there's darkness, there's the sulphurous pit, 127  
Burning, scalding, stench, consumption; fie, fie, fie! pah,  
pah!—Give me an ounce of civet; good apothecary,  
sweeten my imagination; there's money for thee. 130

*Glou.* Oh, let me kiss that hand!

*Lear.* Let me wipe it first; it smells of mortality.

*Glou.* O ruin'd piece of nature! This great world  
Shall so wear out to nought.—Dost thou know me?

*Lear.* I remember thine eyes well enough. Dost thou 135

# Possible human exposure pathways in ambient indoor environment



Diet



Inhalation



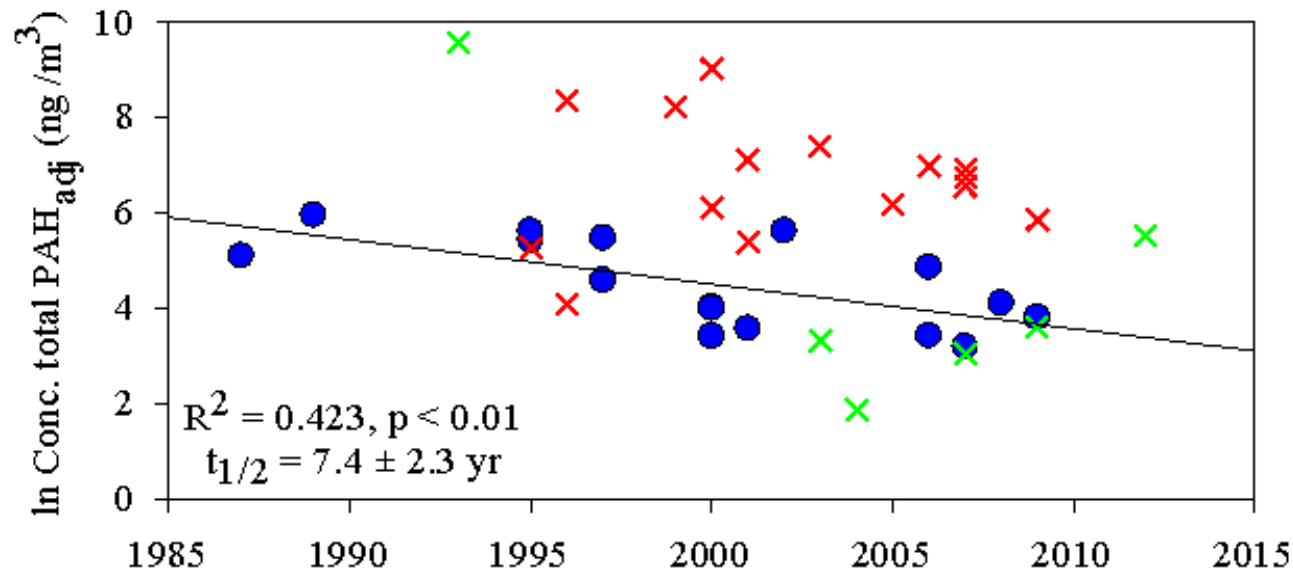
Dermal contact

**Ingestion of  
settled indoor dust  
(HEXACOMM)**

## PAH sources:

*Outdoor Ingress  
Smoking  
Cooking  
Heating  
Biomass burning  
etc.*

# PAH levels in indoor AIR (N=32)

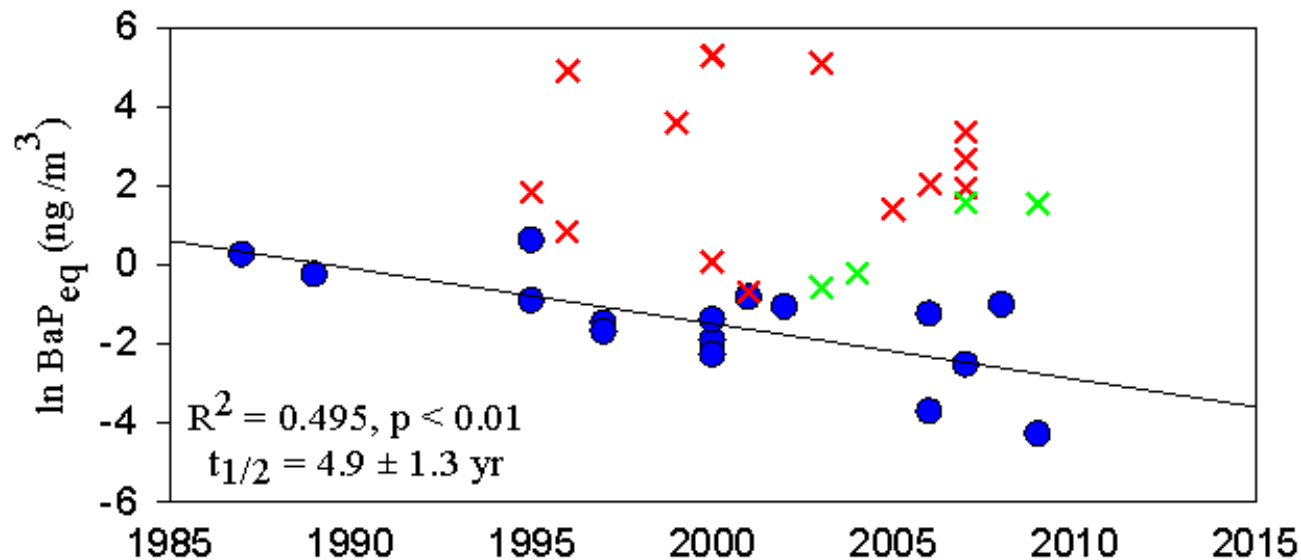


## Legend:

North America

Asia

Other areas

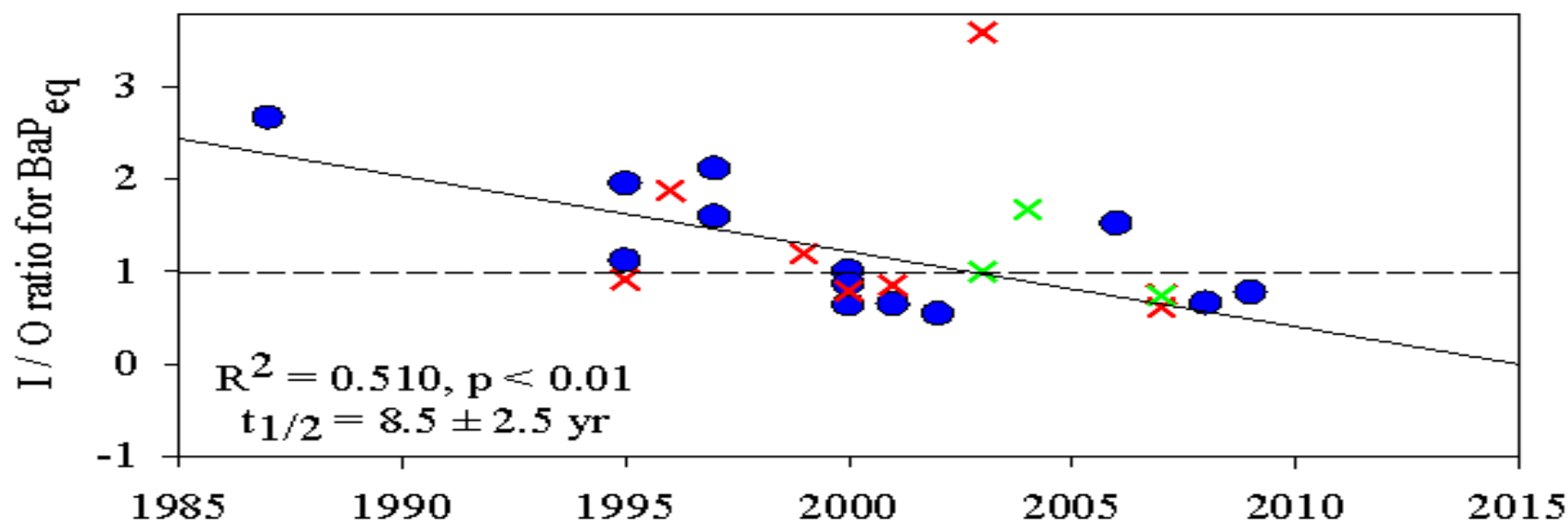
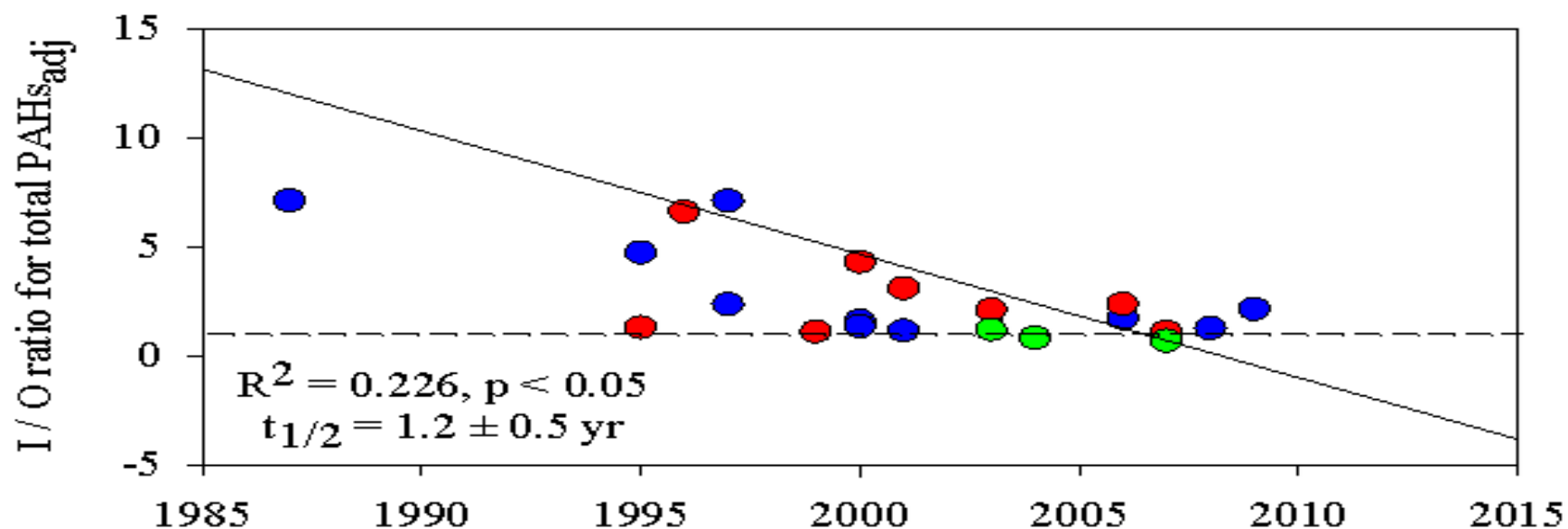


## Concepts:

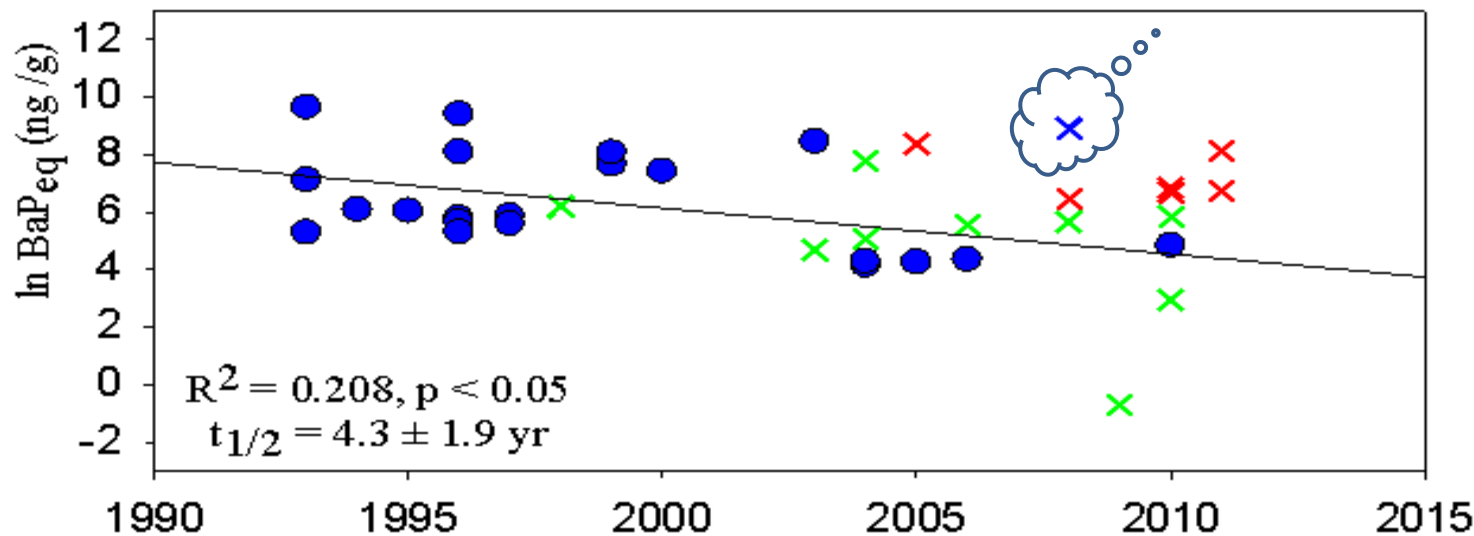
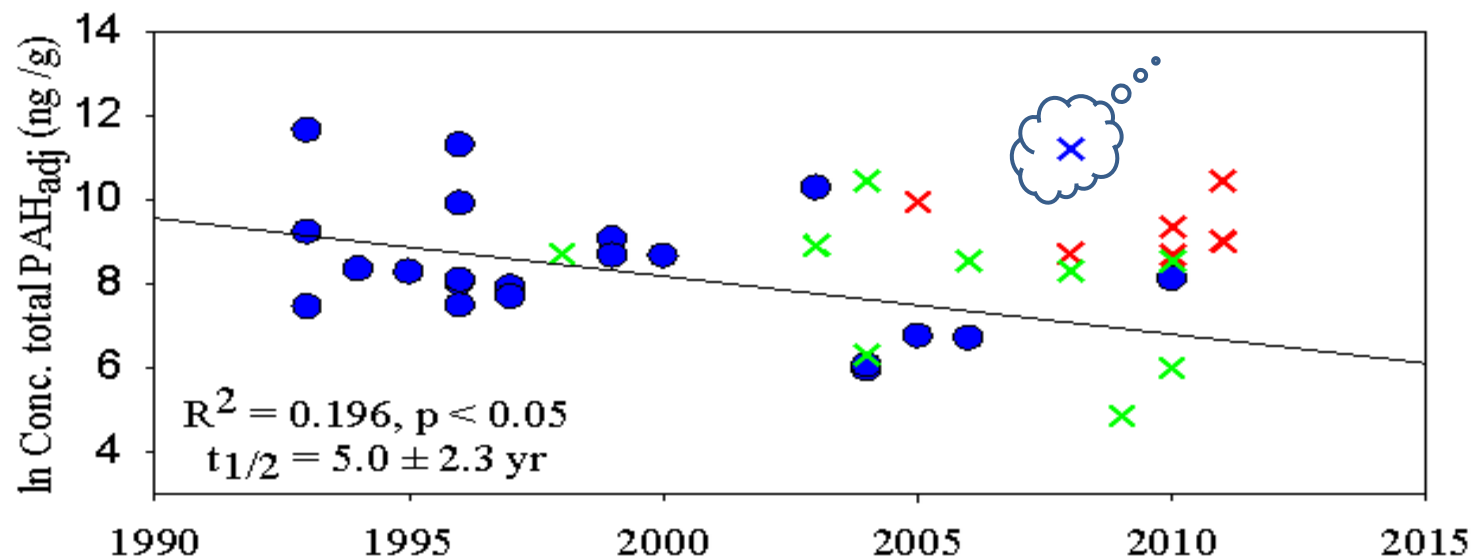
I. Total PAH<sub>adj</sub>

II. BaP<sub>eq</sub>

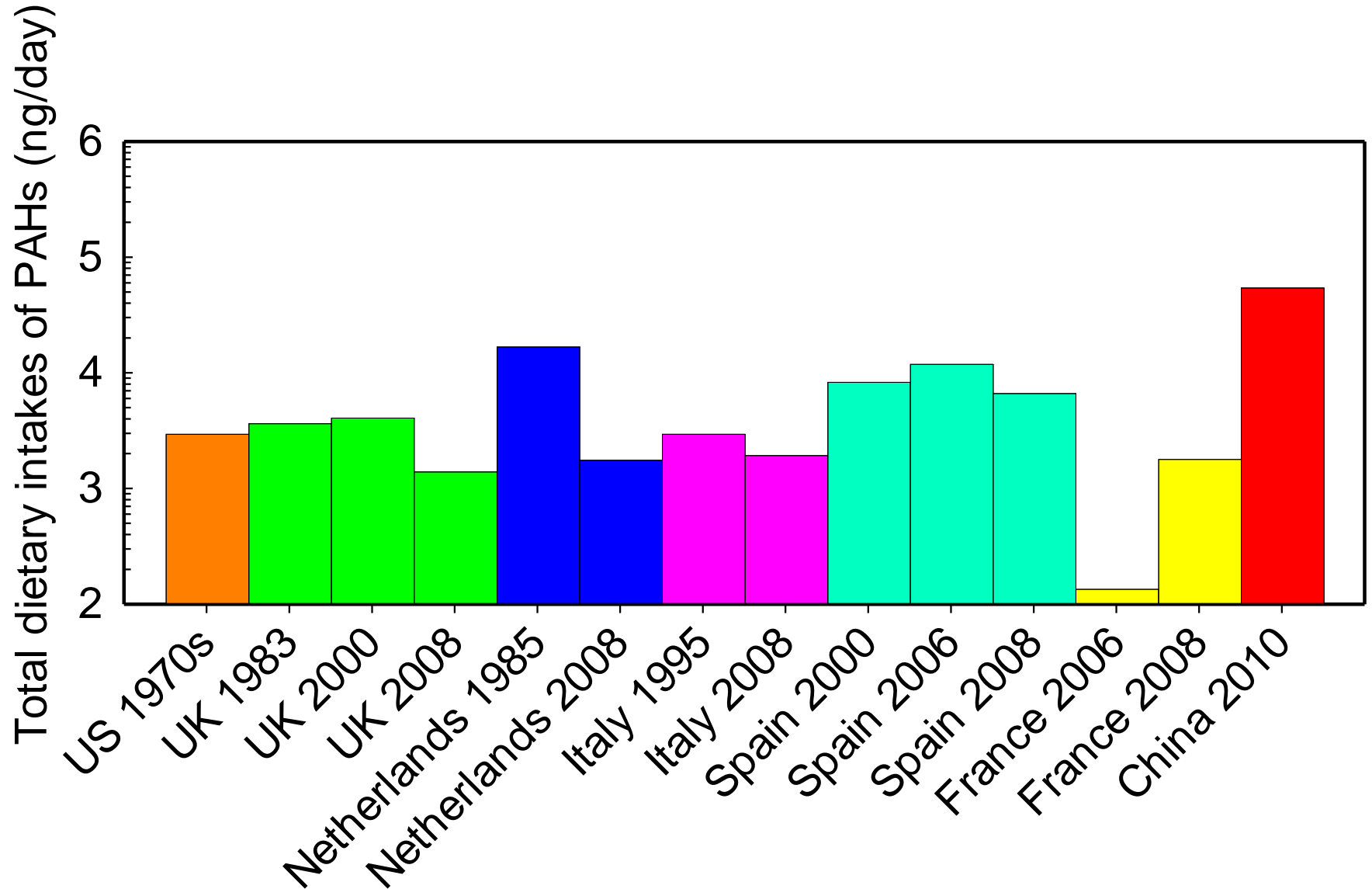
# PAH I/O ratios in indoor AIR



# PAH levels in indoor DUST (N=35)

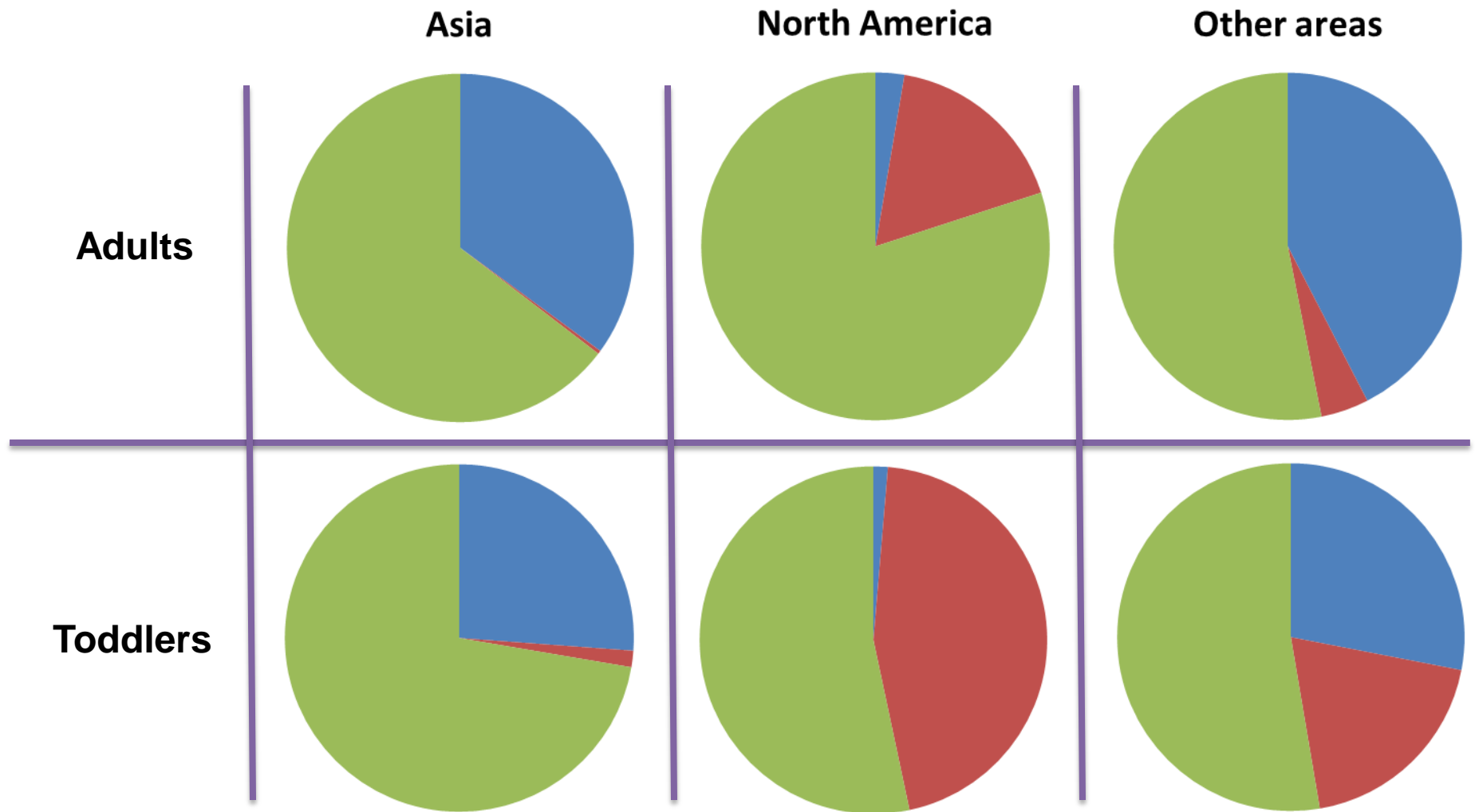


# PAH levels in DIET (N=12)



# Daily $\Sigma$ PAH intakes from major exposure pathways

- Indoor air
- Indoor dust
- Total diet





# Research recommendations

- **New sources** (e.g. ingress of outdoor sources such as use of coal-tar) of PAH indoor contamination in addition to smoking, cooking, etc?
- Indoor PAH **emission rates**?
- Does dust from the floor or from **elevated surfaces** best reflect exposure via dust ingestion?
- Future exposure assessments based on samples collected in a spatially and temporally **consistent fashion** (e.g. indoor air, dust, food, etc. at same location at same period of time)

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