

Smoking Behaviour and Reduced Risk Products

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Head of Risk Reduction

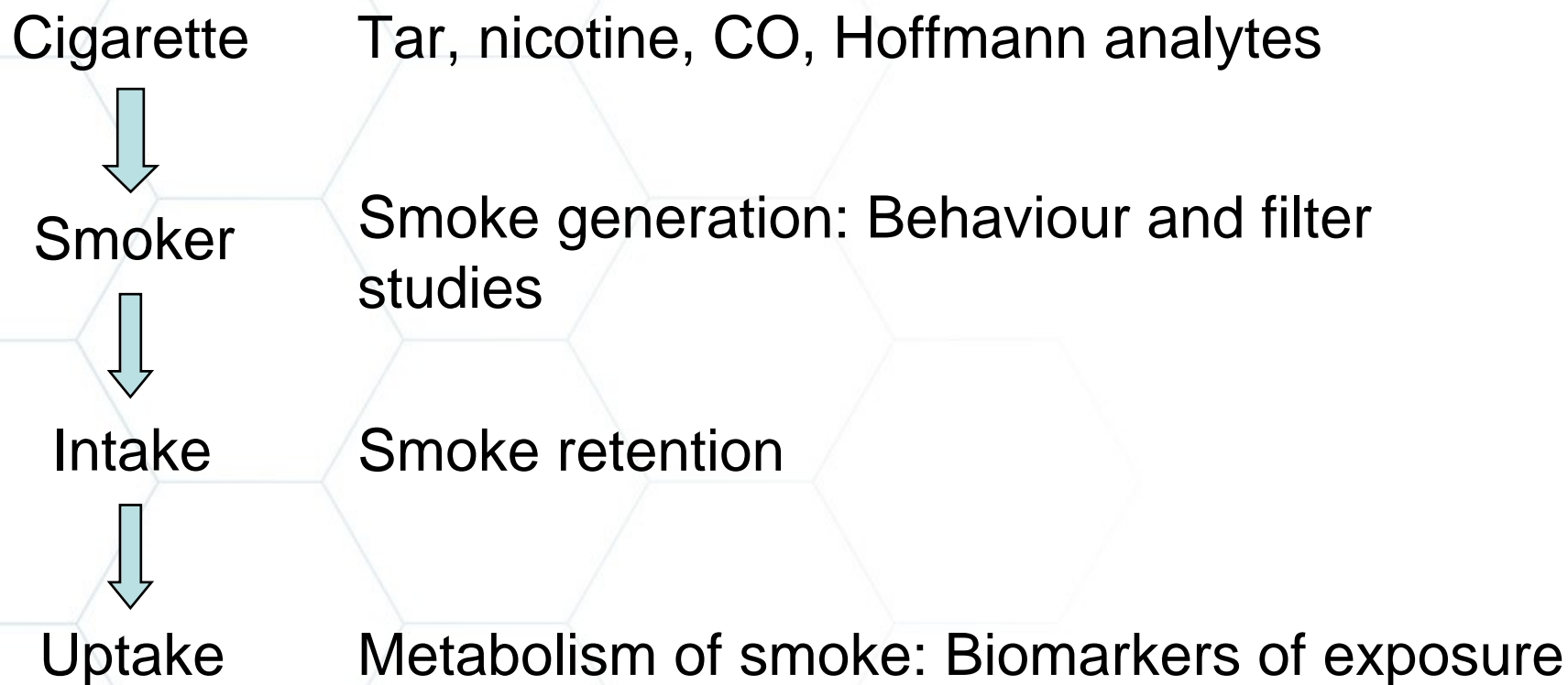
British American Tobacco
Group R&D Centre Southampton
United Kingdom

LSRO meeting: Evaluating the Scientific Evidence for Reduced Risk
Tobacco Products, 27th April 2005

Our beliefs....

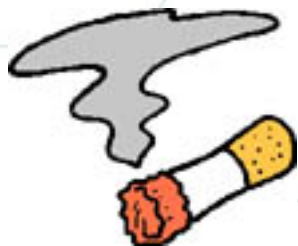
- There is a dose-response relationship between lifetime exposure to tar and incidence of smoking-related illness
- A reduction in tar will generally result in an overall reduction in toxins

What can we measure during the smoking process?

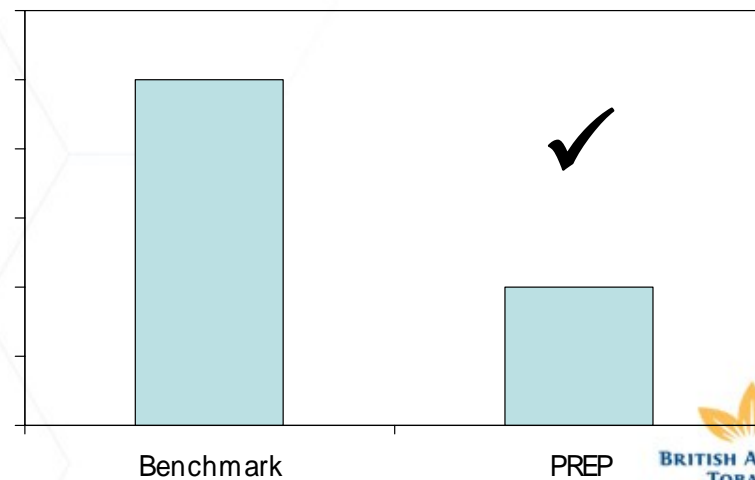


Biomarkers of exposure

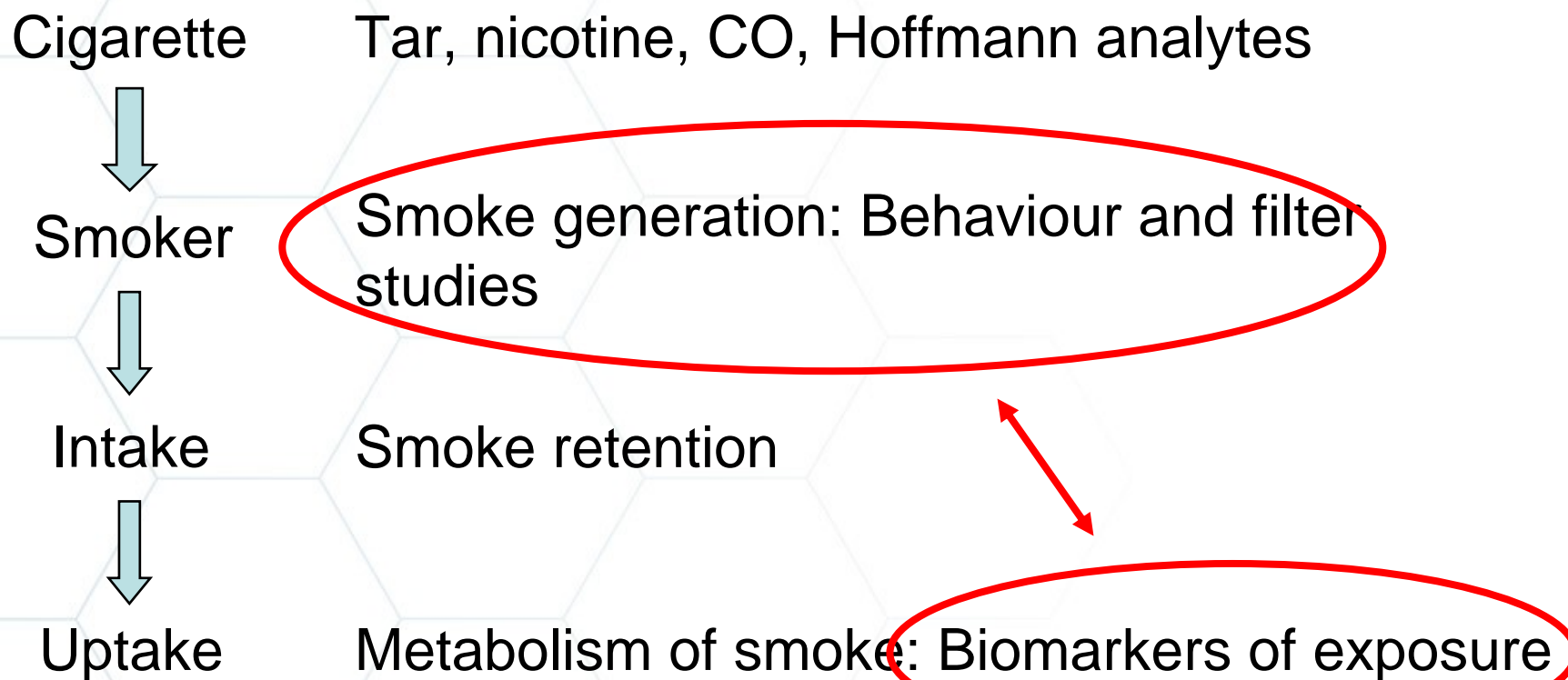
Benchmark product(s) vs Candidate REP



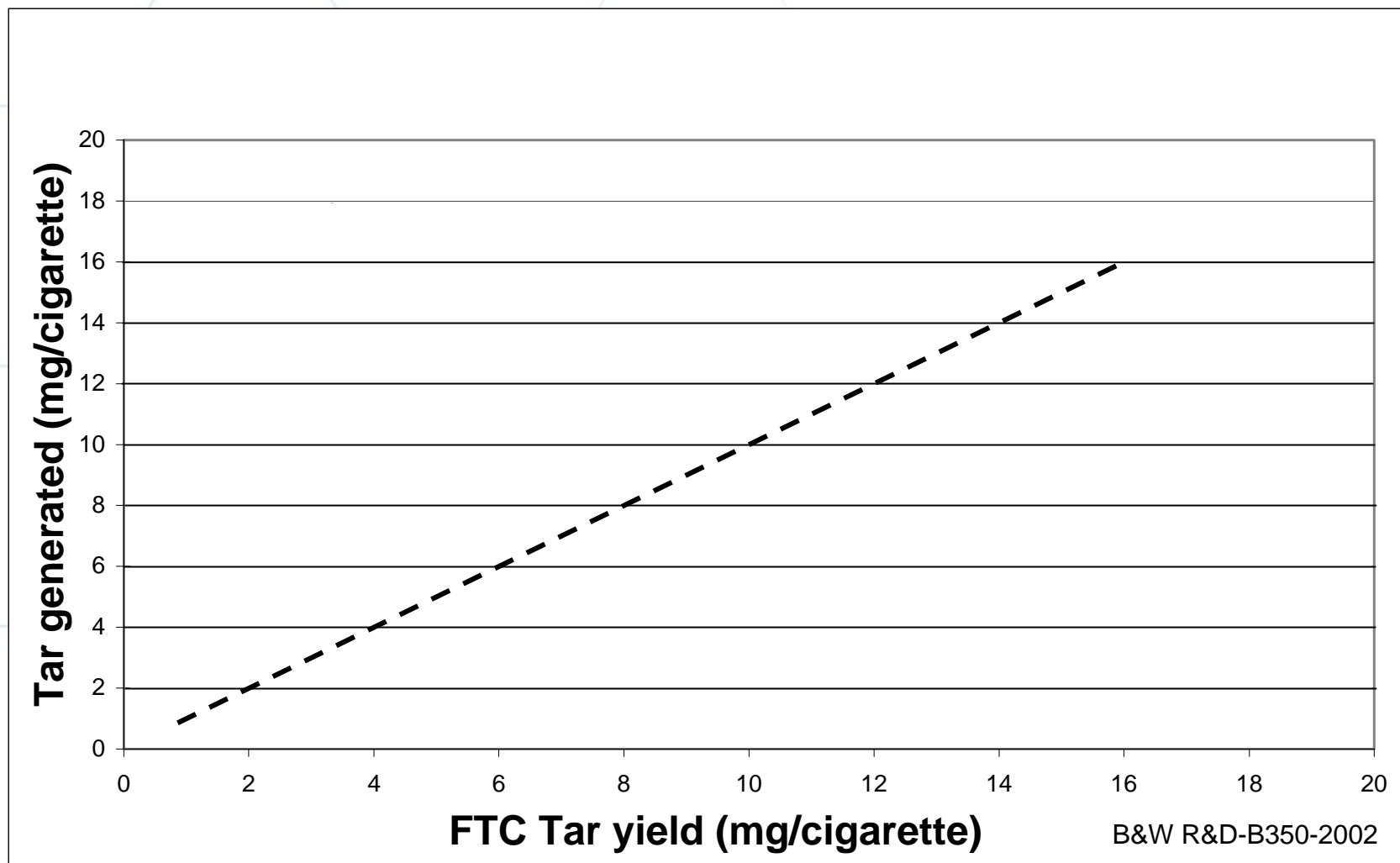
Biomarker level



What can we measure during the smoking process?

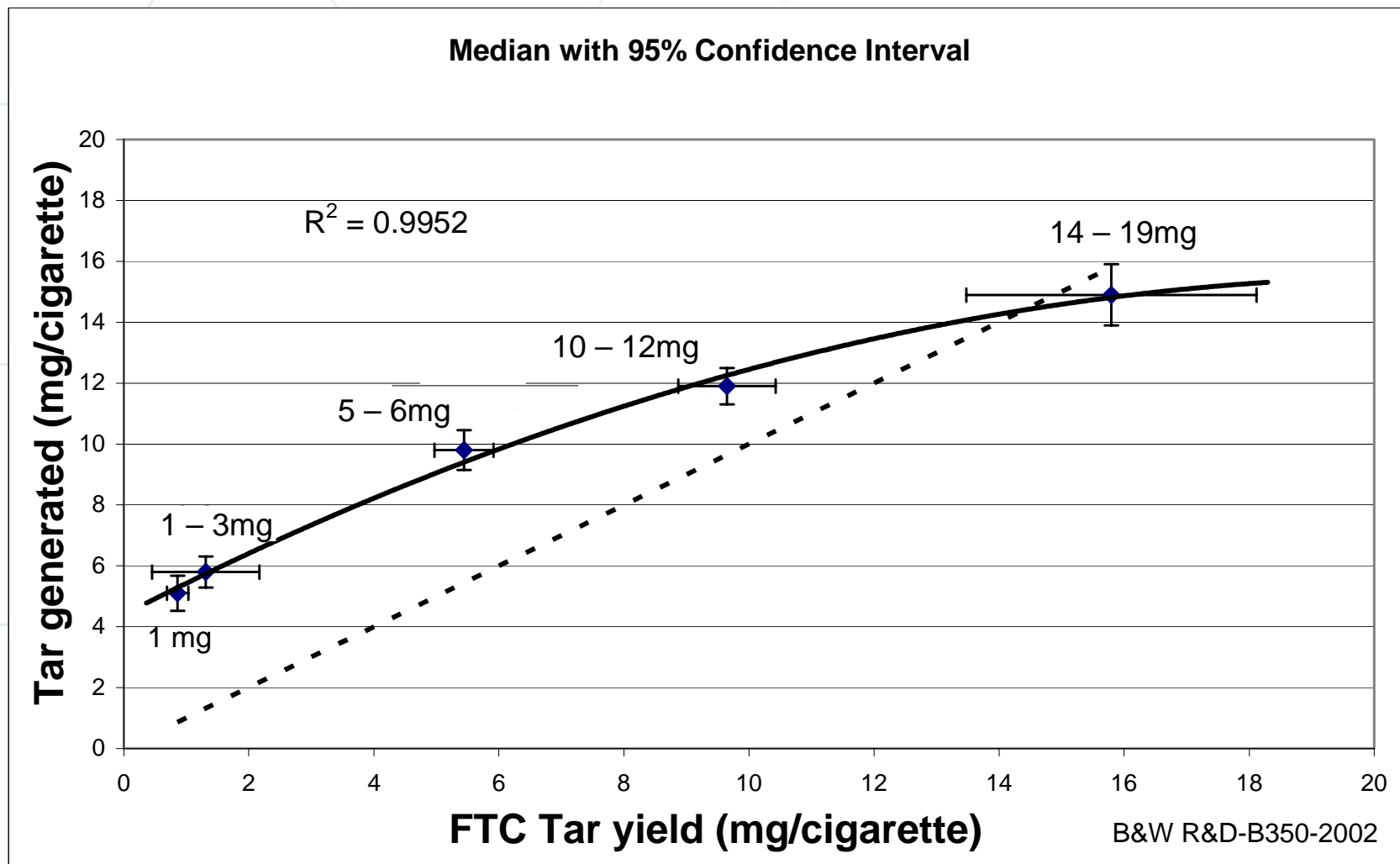


How much smoke do smokers generate?



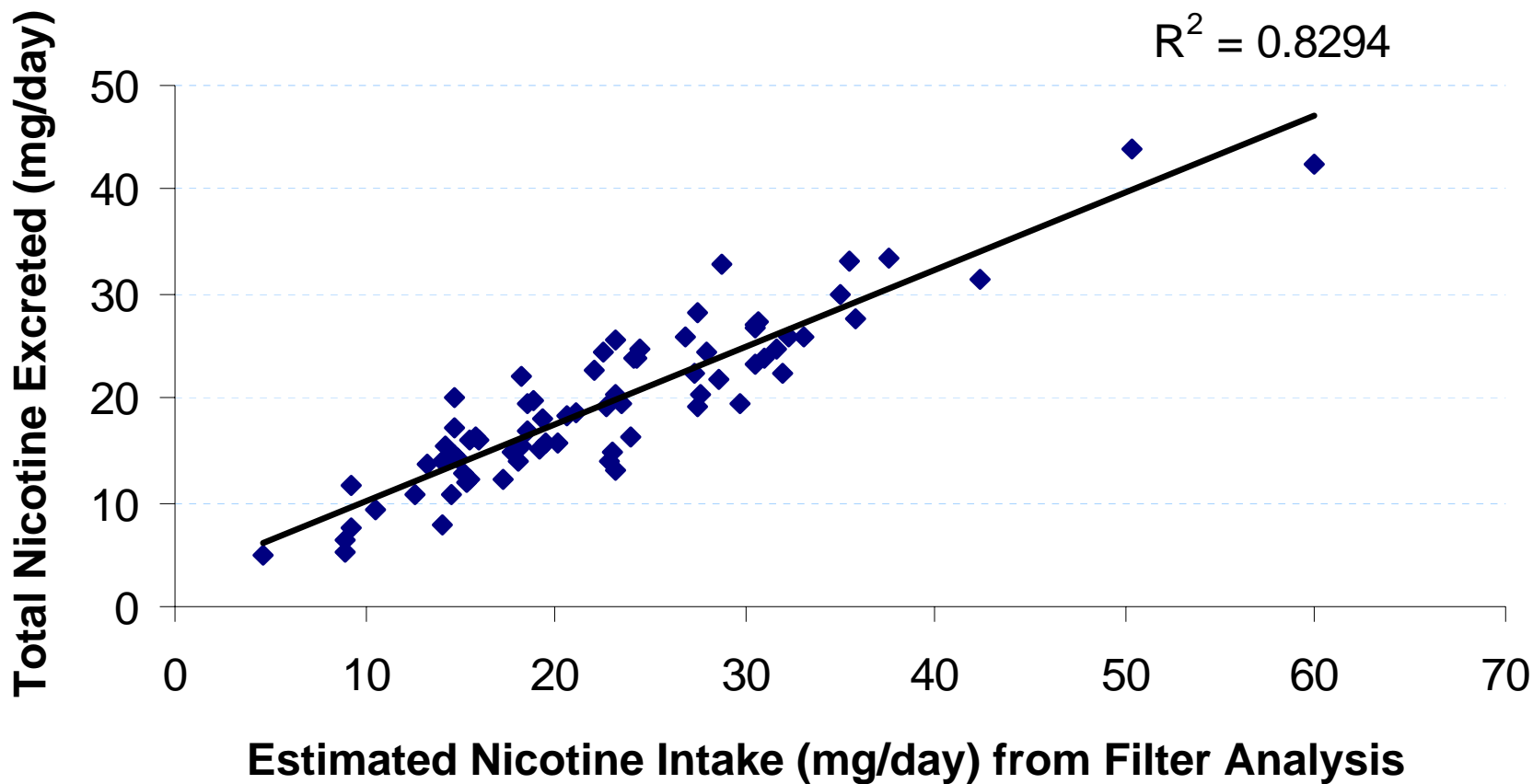
B&W R&D-B350-2002

How much smoke do smokers generate?





Data from Filter analysis is indicative of biomarkers

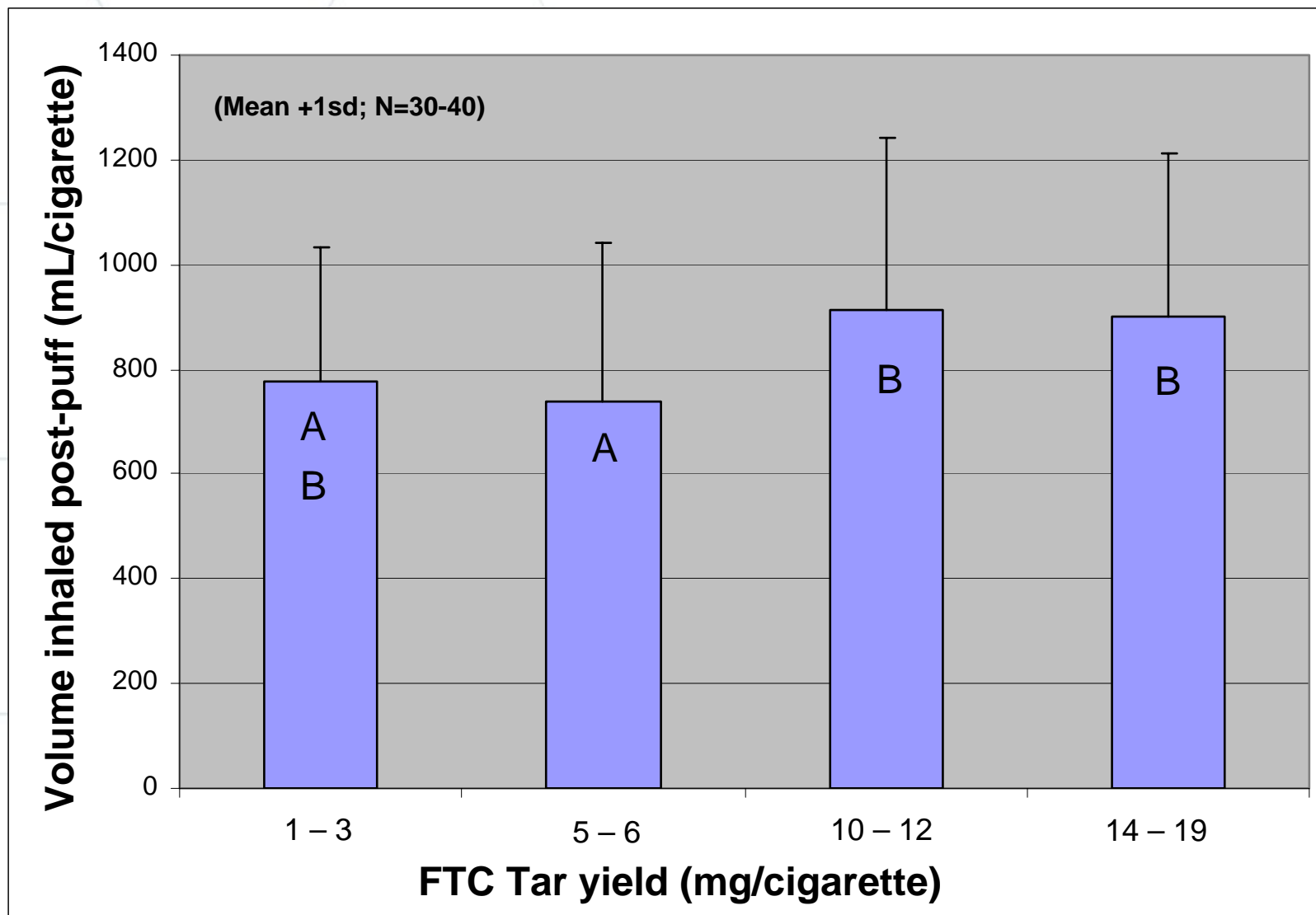
5 Day Average/Subject



Other biomarkers of exposure in urine

Smoke Constituent	Smoke Phase	Biomarker
Acrolein	Vapour	Hydroxypropyl mercapturic acid (HPMA) 
Benzene	Vapour	S-Phenyl mercapturic acid (SPMA)
1,3-Butadiene	Vapour	Monohydroxybutenyl MA, Dihydroxybutyl MA
NNK	Particulate	NNAL + glucuronide 
Pyrene/PAHs	Particulate	1-OH pyrene +glucuronide

How much do smokers inhale?



Bars with the same letters are not significantly different at the 95% Confidence Level using Duncan's Multiple Range Test

Conclusions

- Tar and toxin exposure can be measured
- Smokers of conventional lower yielding products appear to get less tar and toxins
- Real world situations must be included
- More information needed about smoking behaviour world-wide
- We expect this type of work to be part of any PREP launch, both in preparation and afterwards.