

The Crisis Of Evidence

In Which PM2.5 Is Used To Expose
Critical Errors in Thinking About Uncertainty;

Or, Why Probability & Statistics Cannot Discover Cause

William M. Briggs

Let's play: *Who Said It!*

1. "We have no reason to believe any proposition about the unobserved *even after* experience!"
2. "There *are* no such things as good positive reasons to believe any scientific theory."
3. "The truth of any scientific theory is exactly as improbable, both *a priori* and in relation to any possible evidence, as the truth of a self-contradictory proposition" (i.e. It is impossible.)
4. "Belief, of course, is never rational: it is rational to *suspend* belief."

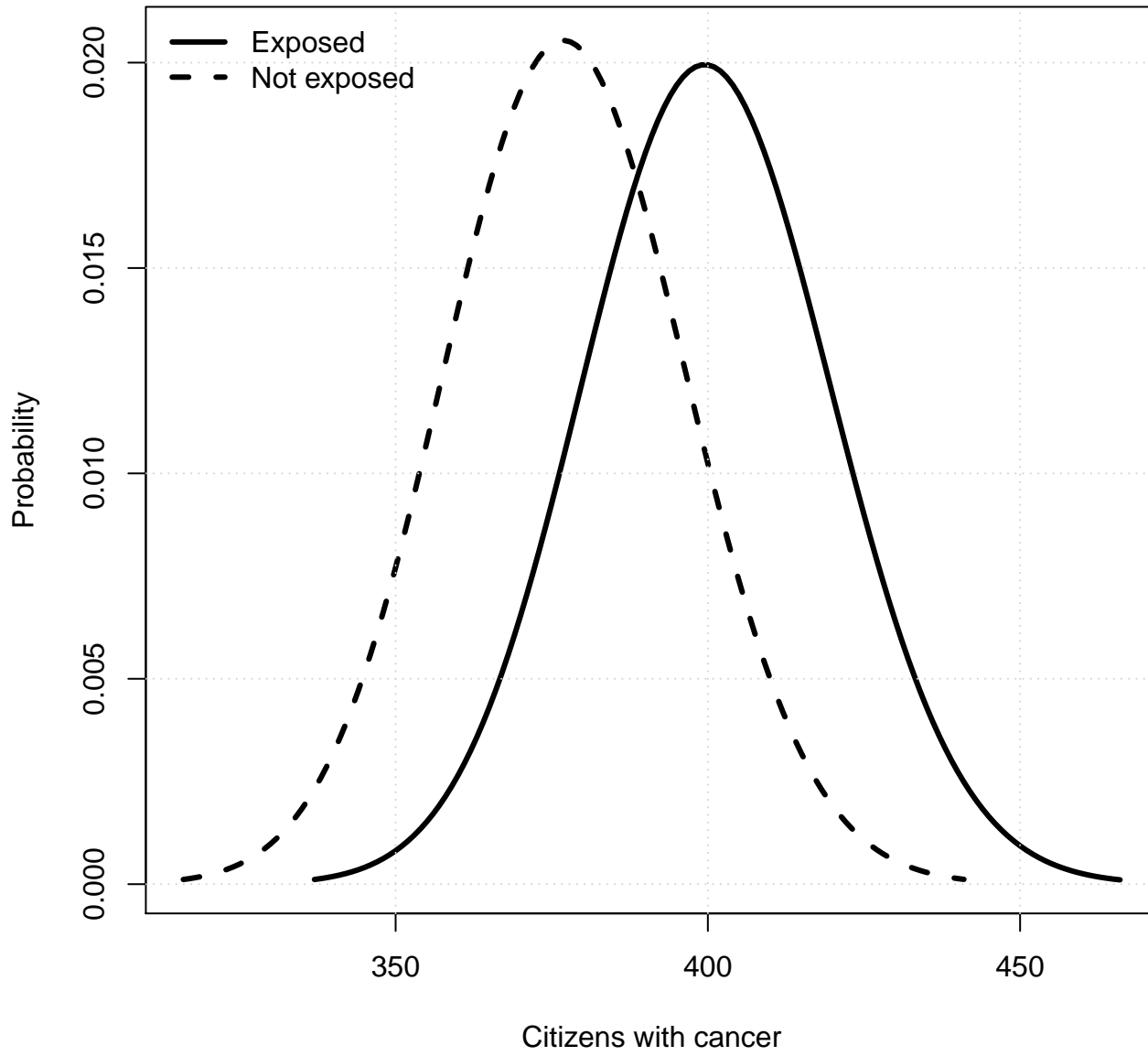
$$RR = \frac{\Pr(\text{Disease}|\text{Exposed})}{\Pr(\text{Disease}|\text{Not Exposed})} = \frac{2 \times 10^{-7}}{1 \times 10^{-7}} = 2$$

$$RR_{LA} = \frac{\Pr(\geq 1\text{Person}|\text{Exposed})}{\Pr(\geq 1\text{Person}|\text{Not Exposed})} = \frac{0.33}{0.18} = 1.8$$

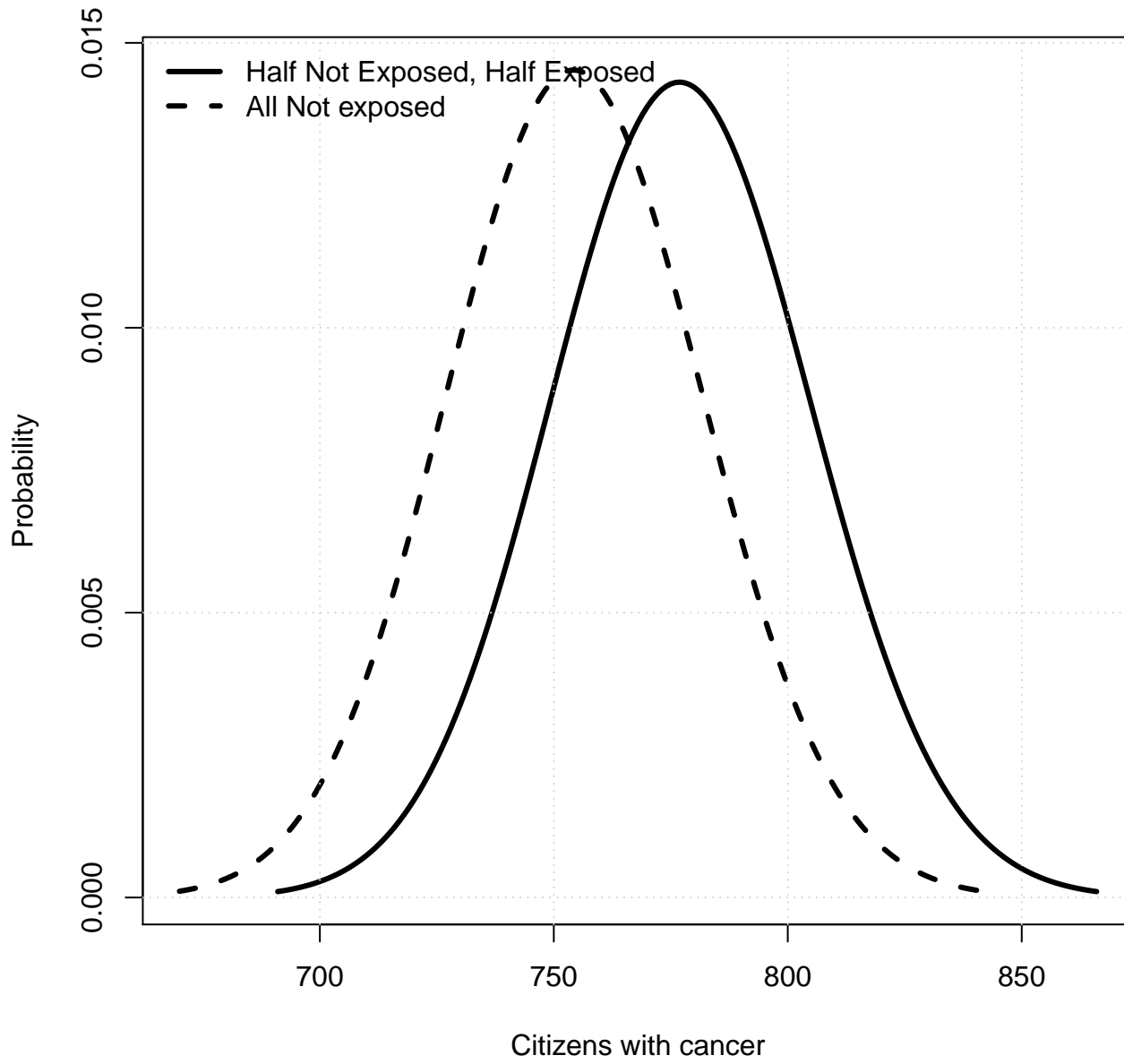
Jerrett *et al.*

$$RR = \frac{\text{Pr}(\text{Disease}|\text{Exposed})}{\text{Pr}(\text{Disease}|\text{Not Exposed})} = \frac{2 \times 10^{-4}}{1.89 \times 10^{-4}} = 1.06$$

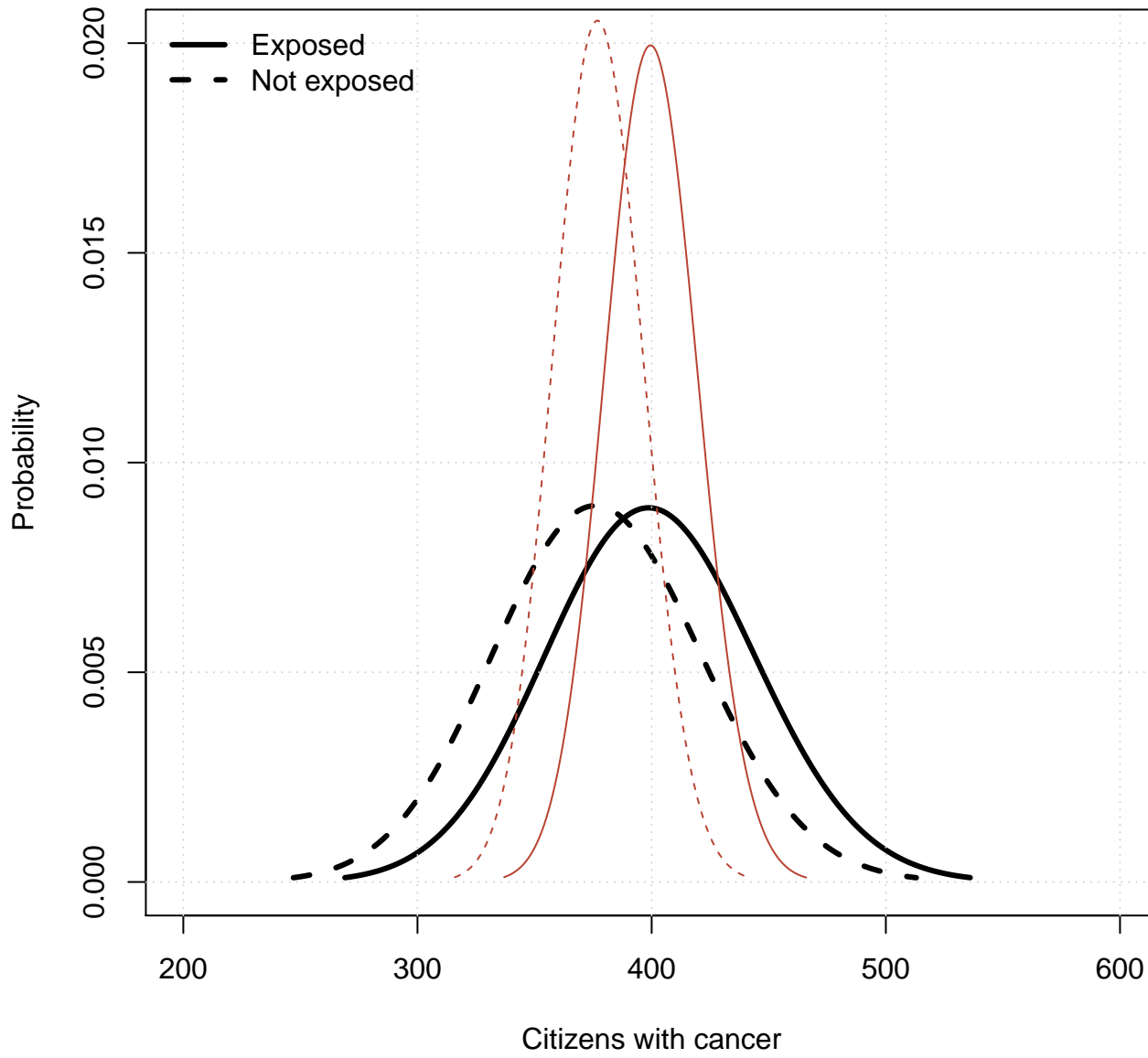
Probabilities of Developing Cancer



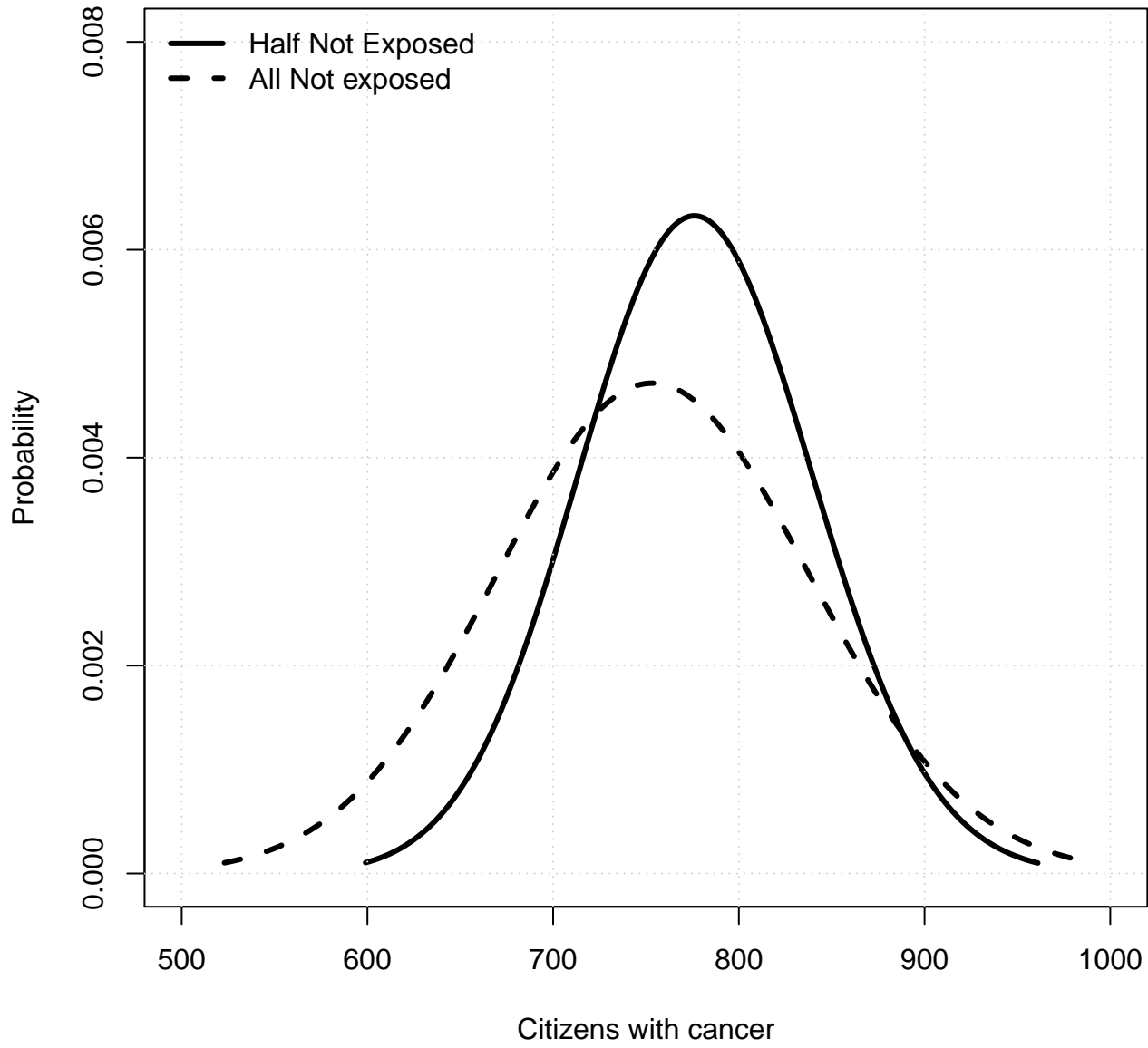
Probabilities of Developing Cancer



Probabilities of Developing Cancer



Probabilities of Developing Cancer



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Paper: [Arxiv.org](https://arxiv.org) :: Search *Briggs*