The impact of tobacco retail outlets on smoking cessation: the effects of threshold, proximity and density in a longitudinal population representative study

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The other face of the tobacco industry

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Tobacco Retail

• Proximity
  How far away is the closest outlet?

• Density
  How many outlets are there within a certain area?

• Threshold
  Is there at least one outlet within a certain area?

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Ontario Tobacco Survey

- 4500 Ontario smokers
- Followed every 6 months for 3 years
- Limited to urban, daily smokers at baseline (n=2414).
- Proximity: walking distance to nearest store from home
- Density: number of stores with 500 m
- Threshold: At least 1 store within 500 m
- Controlling for clustering by neighbourhood, demographic and smoking characteristics
  - (including age, sex, marital status, having children under 18 in the home, level of education completed, region of Ontario, perceived addiction, prior use of pharmaceutical quit aids, prior use of behavioural quit aids, Heaviness of Smoking Index (HSI), neighbourhood income quintile, quintile of percentage of immigrants in neighbourhood, and municipal size)

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Outcomes

- Risk of making a quit attempt
- Relapse rate among smokers who made a serious quit attempt (n=921)
Results

- 31% lived within 250 m of a tobacco outlet
- 66% lived within 500 m of a tobacco outlet
- More likely to live close if living in a low income neighbourhood
- Significant interaction between making a quit attempt and neighbourhood income

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Quit attempts

• Proximity
Low and high income:
No relationship

• Density
High income only:
Increased density = decreased risk of making a quit attempt

(RR=0.54, 95% CI: 0.35, 0.85)

• Threshold
Low and high income:
No relationship

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Relapse

• Proximity
  No relationship

• Density
  No independent effect of density

• Threshold
  Having a store within 500m increased risk of relapse
  (HR: 1.47, 95% CI: 1.06, 1.88)

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Conclusions

• Quit attempts associated with density among high income neighbourhoods only: social norms?
• Relapse associated with threshold effects: sufficient supply?

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