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Health Inequalities and Unhealthy Environments

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... how where we grow, live and age affects our health



Health Inequalities and (Un)Healthy Environments

- Environment and Health – then
- Health inequalities
- Mortality – infectious to chronic
- Environment and Health – now
- Alcohol and the Environment
- Radical Solutions



Edwin Chadwick



interment.

§ 37. Of the deaths which take place in the metropolis, it will be seen that more than one-half are the deaths of the labouring classes. The following table, taken from the Mortuary Registries during the year 1839, shows the numbers of deaths amongst the chief classes of society, and the proportions of deaths from epidemic diseases. At least four out of five of the deaths of the labouring classes, it will be remembered, are stated to occur in the single living and sleeping room, that is to say, upwards of 20,000 annually.

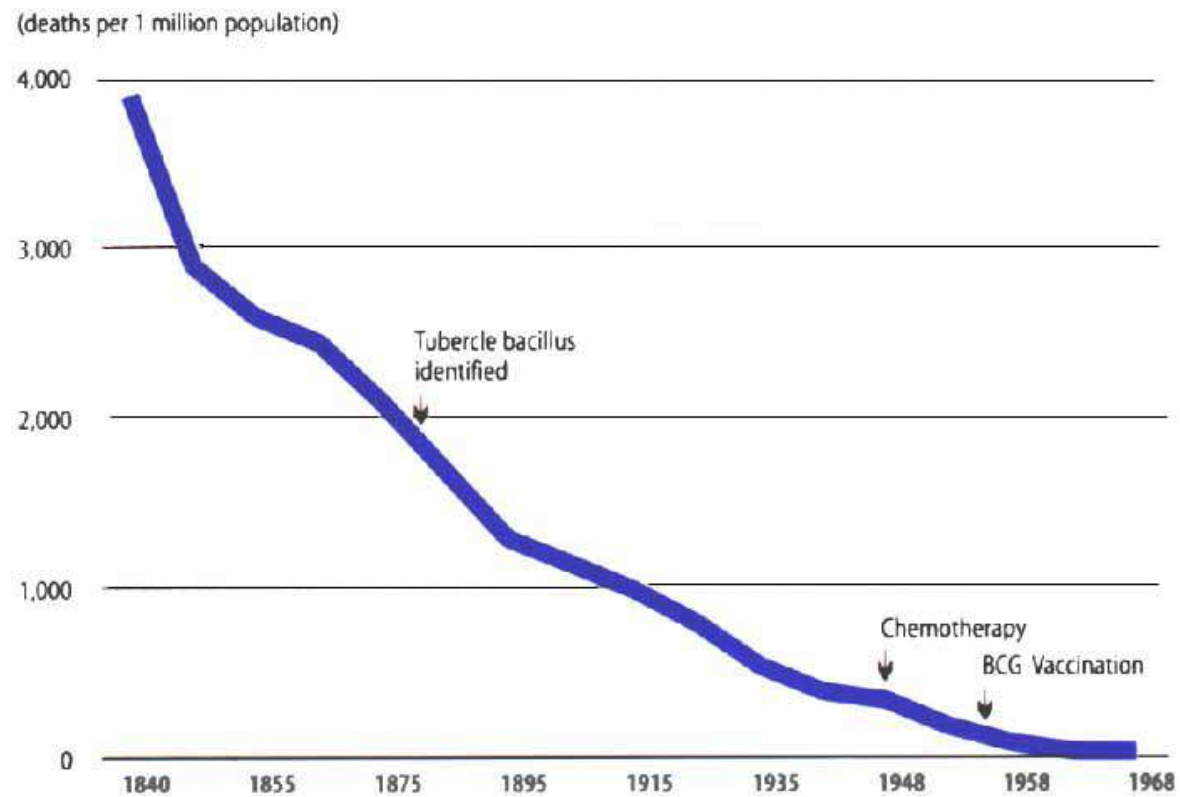
	Number of Deaths of each Class.			Ratio of Deaths of Children to Total Deaths.	Number of Deaths from Epidemic, Endemic, and Contagious Diseases.	Ratio of Deaths from Epidemic, Endemic, and Contagious Diseases to Total Deaths.	Average Age at Death of the whole Class, including Children.
	Adults.	Children under 10 Years.	Total.				
Gentry, Professional Persons, & their Families	1,724	529	2,253	1 in $4\frac{3}{10}$	210	1 in $10\frac{7}{10}$	44
Tradesmen, Clerks, & their Families . . .	3,979	3,703	7,682	1 in $2\frac{1}{10}$	1,428	1 in $5\frac{1}{10}$	25
Undescribed . . .	2,996	2,761	5,757	1 in $2\frac{1}{10}$	1,051	1 in $5\frac{3}{10}$	28
Labourers and their Families . . .	12,045	13,885	25,930	1 in $1\frac{2}{10}$	5,469	1 in $4\frac{8}{10}$	22
Paupers	3,062	593	3,655	1 in $6\frac{2}{10}$	557	1 in $6\frac{6}{10}$	49
Total . . .	23,806	21,471	45,277	1 in $2\frac{1}{10}$	8,715	1 in $5\frac{2}{10}$	27

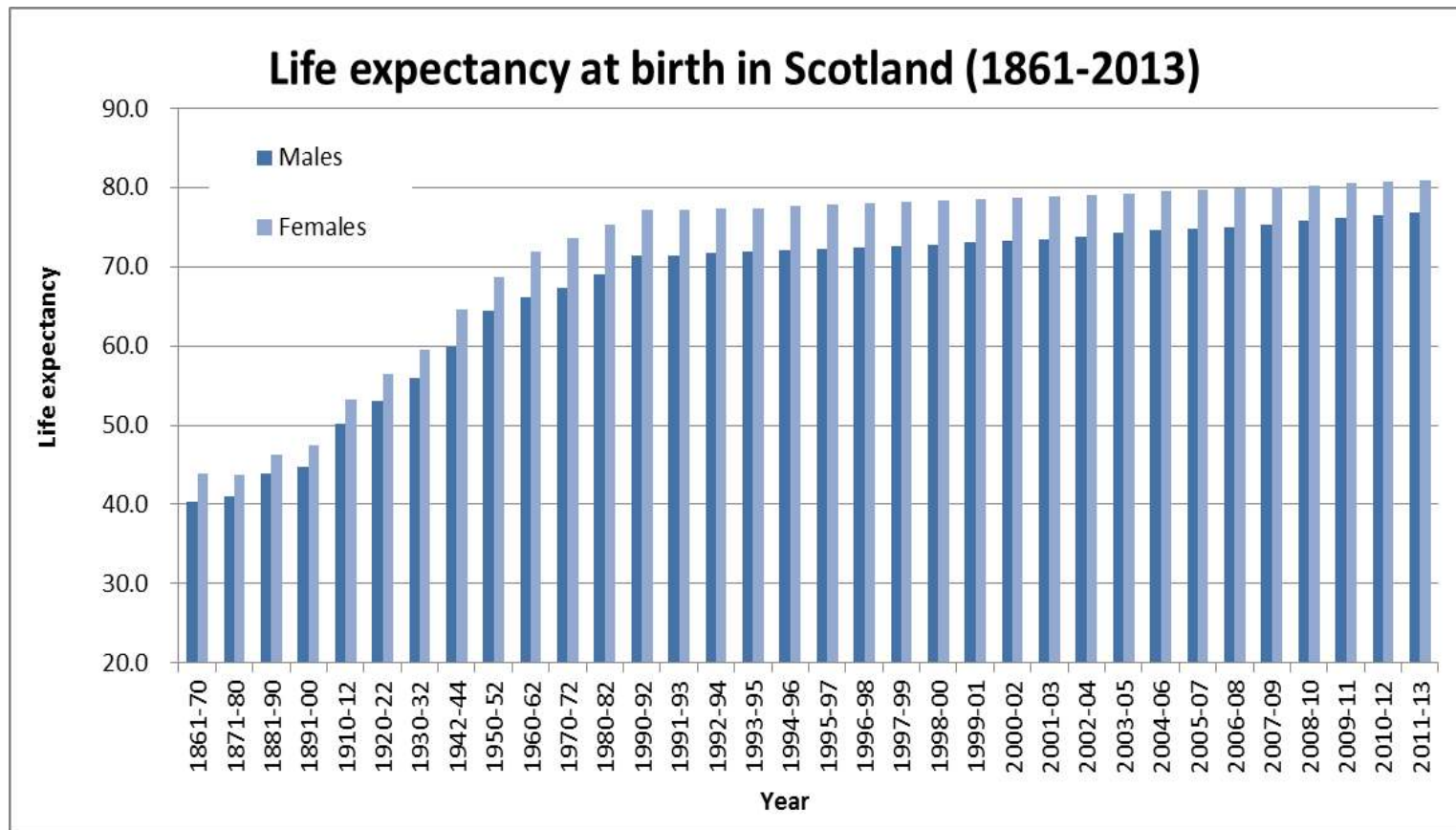
In making up this table, all who were not distinguished as master

The Sanitary Condition of the Labouring Population (1842)

<http://www.archive.org/details/reportonsanitary00chaduoft>

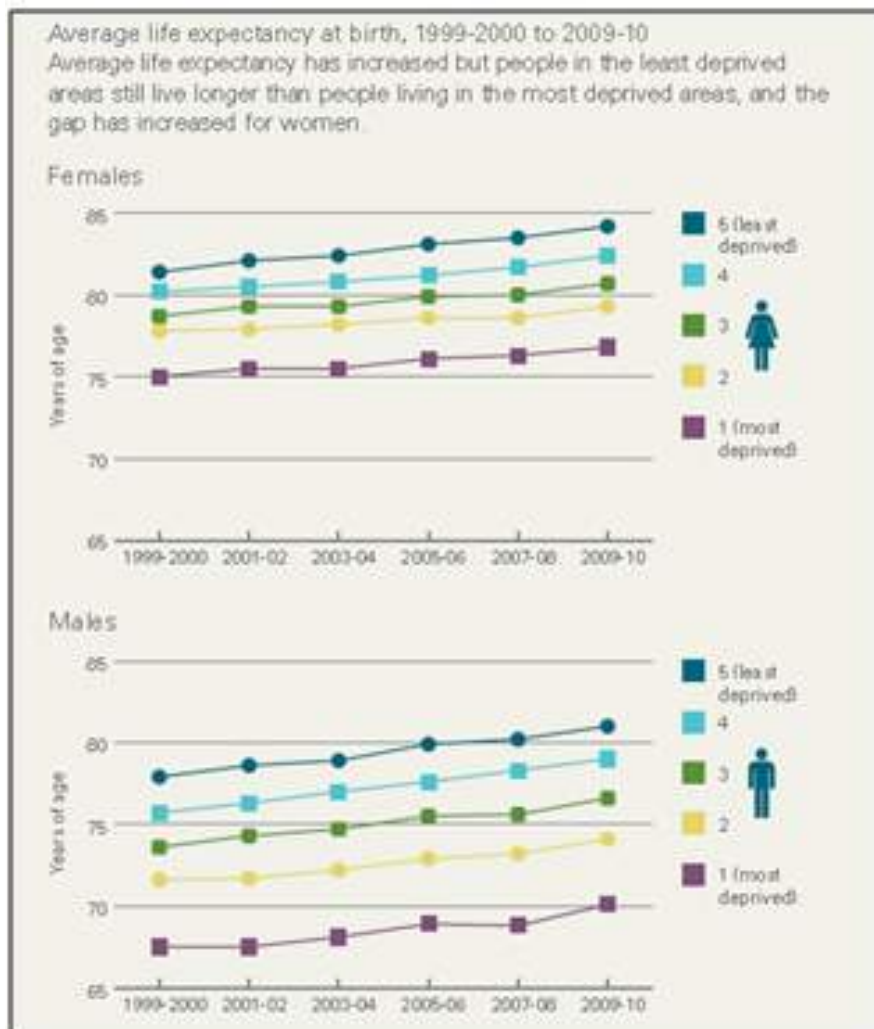
Death from Tuberculosis (England and Wales)





Source: GRO for Scotland

<http://www.gro-scotland.gov.uk/statistics/theme/life-expectancy/scotland/national-life-tables.html>

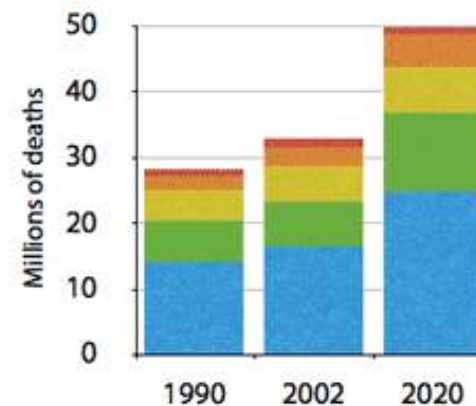


Source: Audit Scotland

Annual Global Mortality, by Category

Chronic Illness

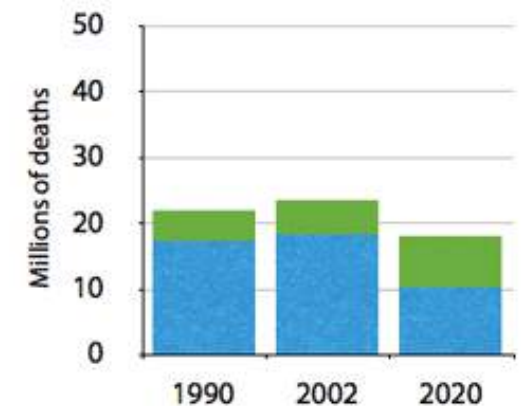
- Diabetes
- Respiratory diseases (asthma, COPD)
- Other "noncommunicable" diseases
- Cancer
- Cardiovascular diseases



Injuries & Communicable Disease

- Communicable diseases*
- Injuries

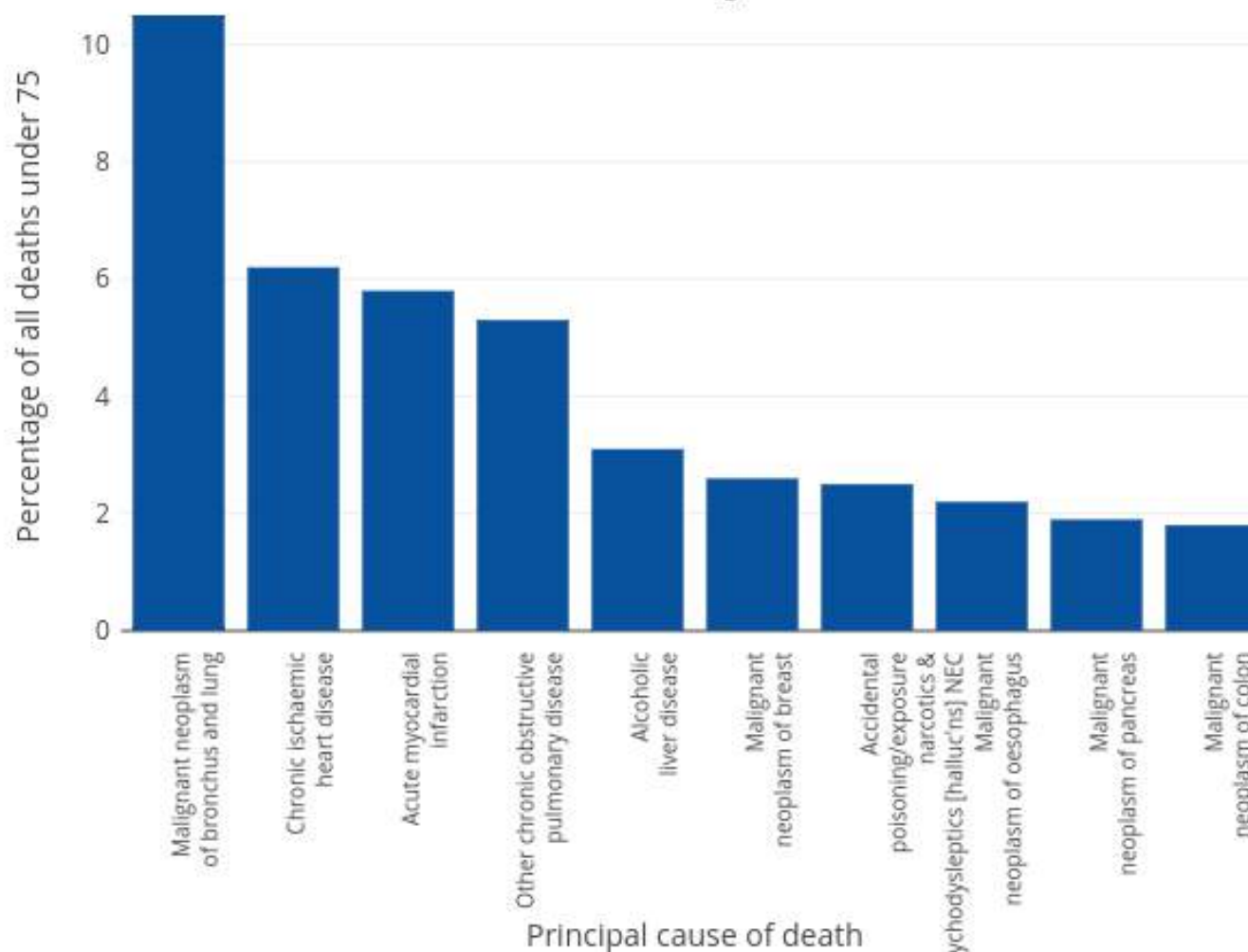
* Figure does not include chronic diseases, which are communicable.



Source: Yach, D. et al. *JAMA* 2004;291:2616-2622.

Chart 2. The ten most frequently occurring principal causes of premature death for people under 75 years, Scotland, 2014-2016

Source: NRS. Based on 3-digit ICD10 codes



Main Risk Factors for NCDs



Source: World Health Organisation

Healthy Environments



Places aren't just 'containers' in which individuals live... places actively shape lives (for better and worse).



Street view images
©2017 Google
Slide courtesy of Laura McDonald
University of Glasgow



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Do ‘environmental bads’ such as alcohol, fast food, tobacco, and gambling outlets cluster and co-locate in more deprived areas in Glasgow City, Scotland?



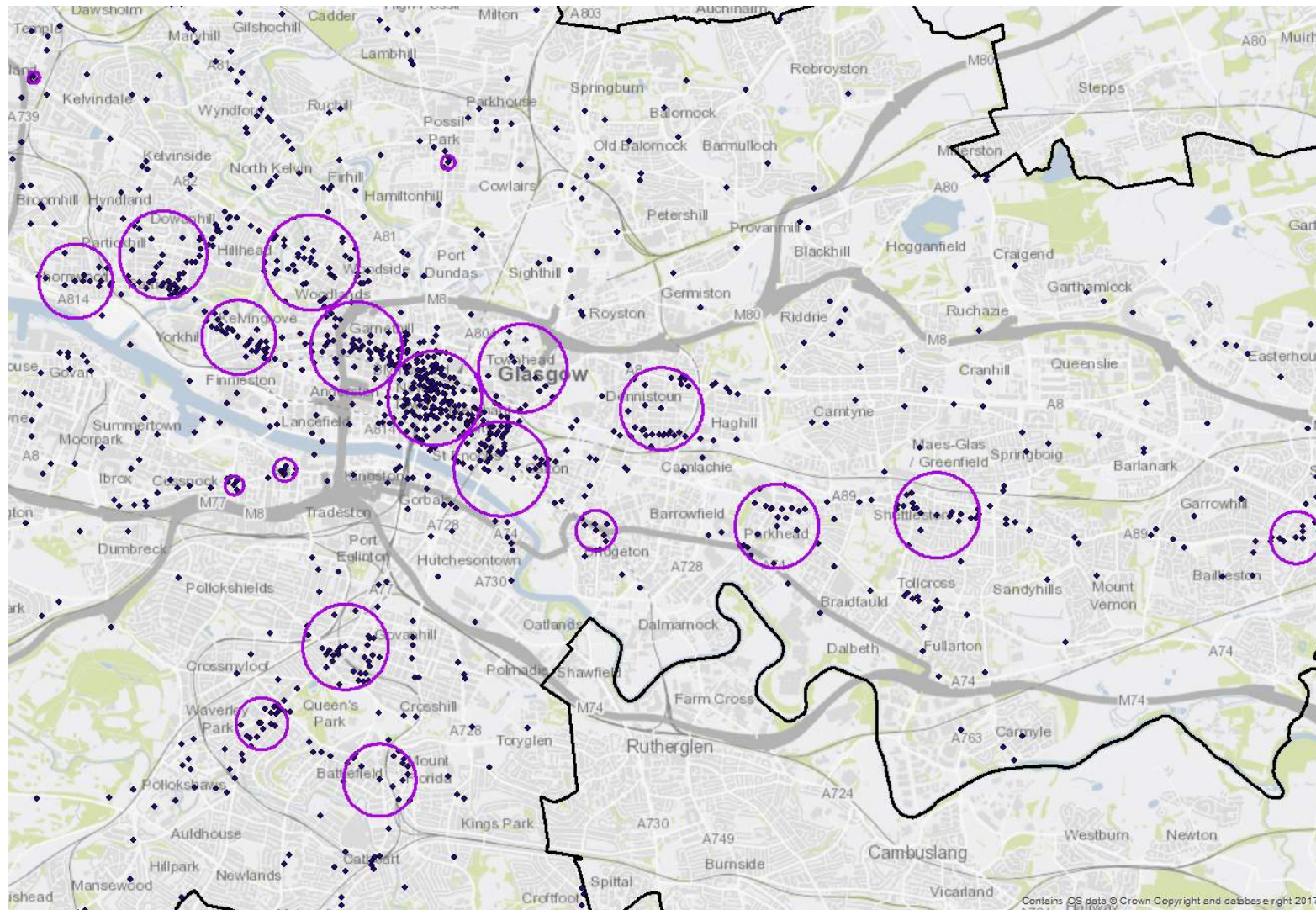
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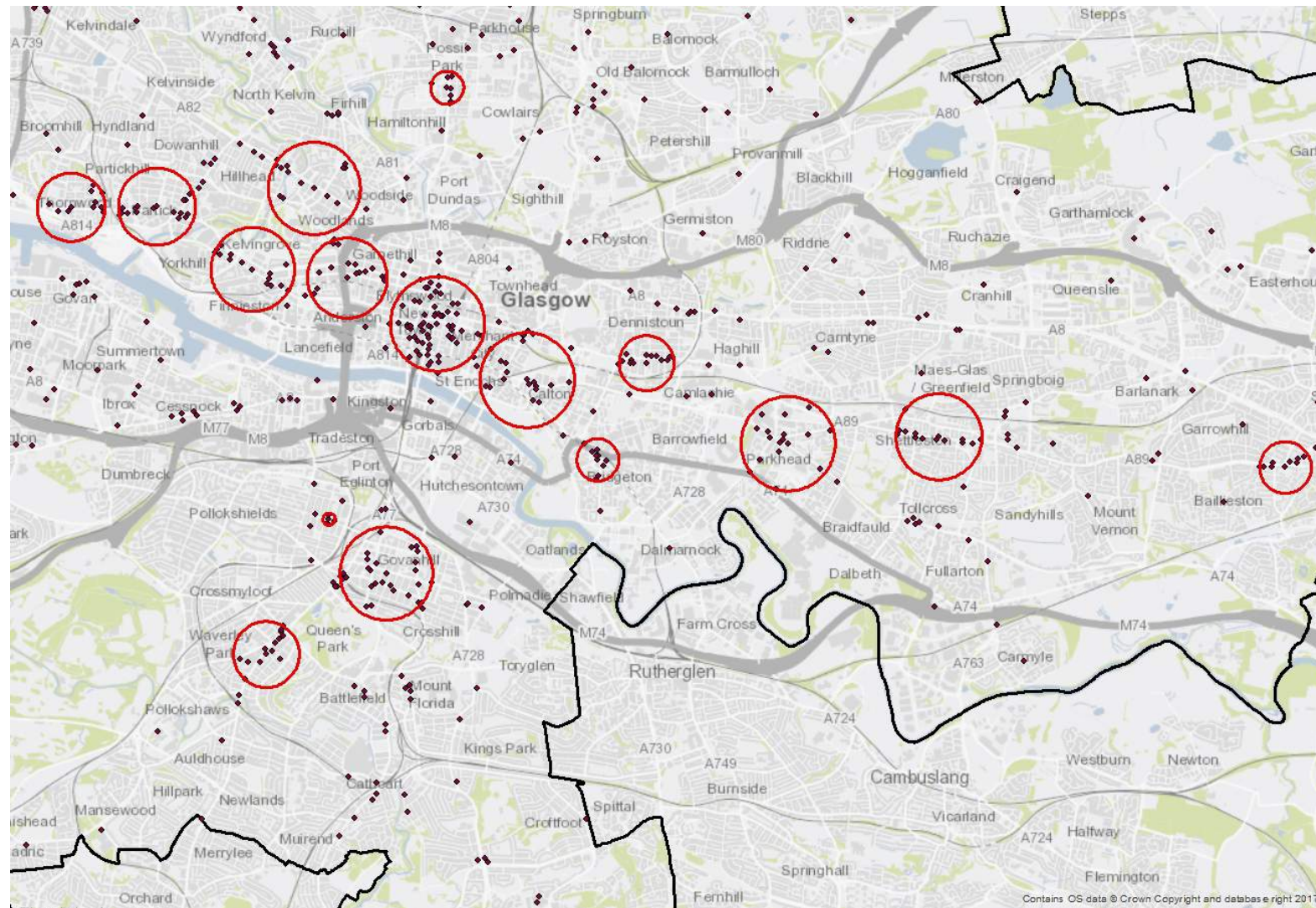
^b Centre for Research on Environment, Society and Health, School of Geosciences, University of Edinburgh, Drummond Street, Edinburgh EH8 9XP, United Kingdom

- Explore whether particular areas are subject to excess access to potentially health damaging retailers
- Examine the spatial patterning of a range of retail outlets (alcohol, tobacco, fast food, gambling) in combination and separately
- Utilise cluster analysis to detect if outlets:
 - are located closely together (i.e. cluster)
 - co-locate (i.e. different categories of outlet found in similar areas) within *poorer* neighbourhoods.

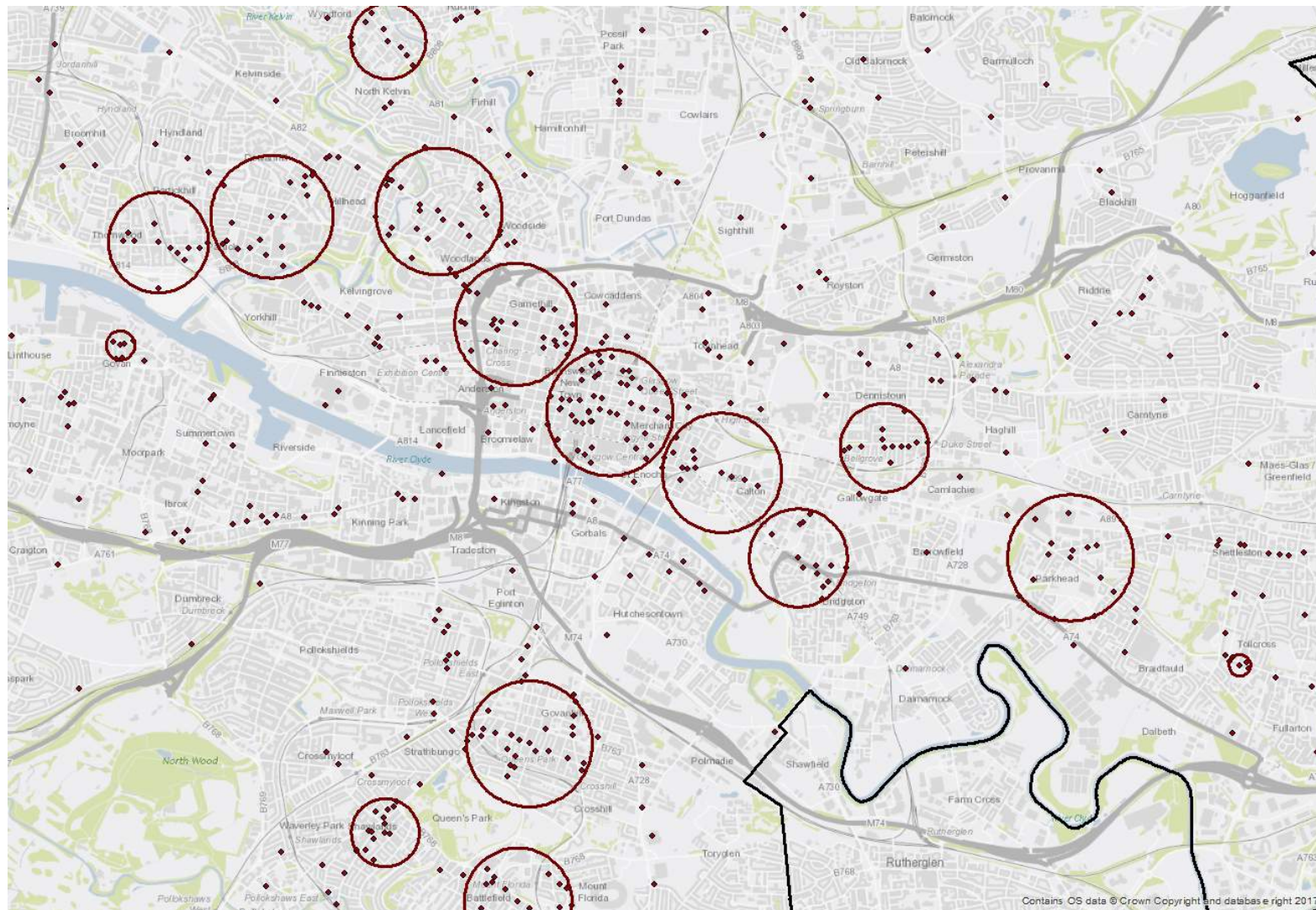
Alcohol outlet clusters



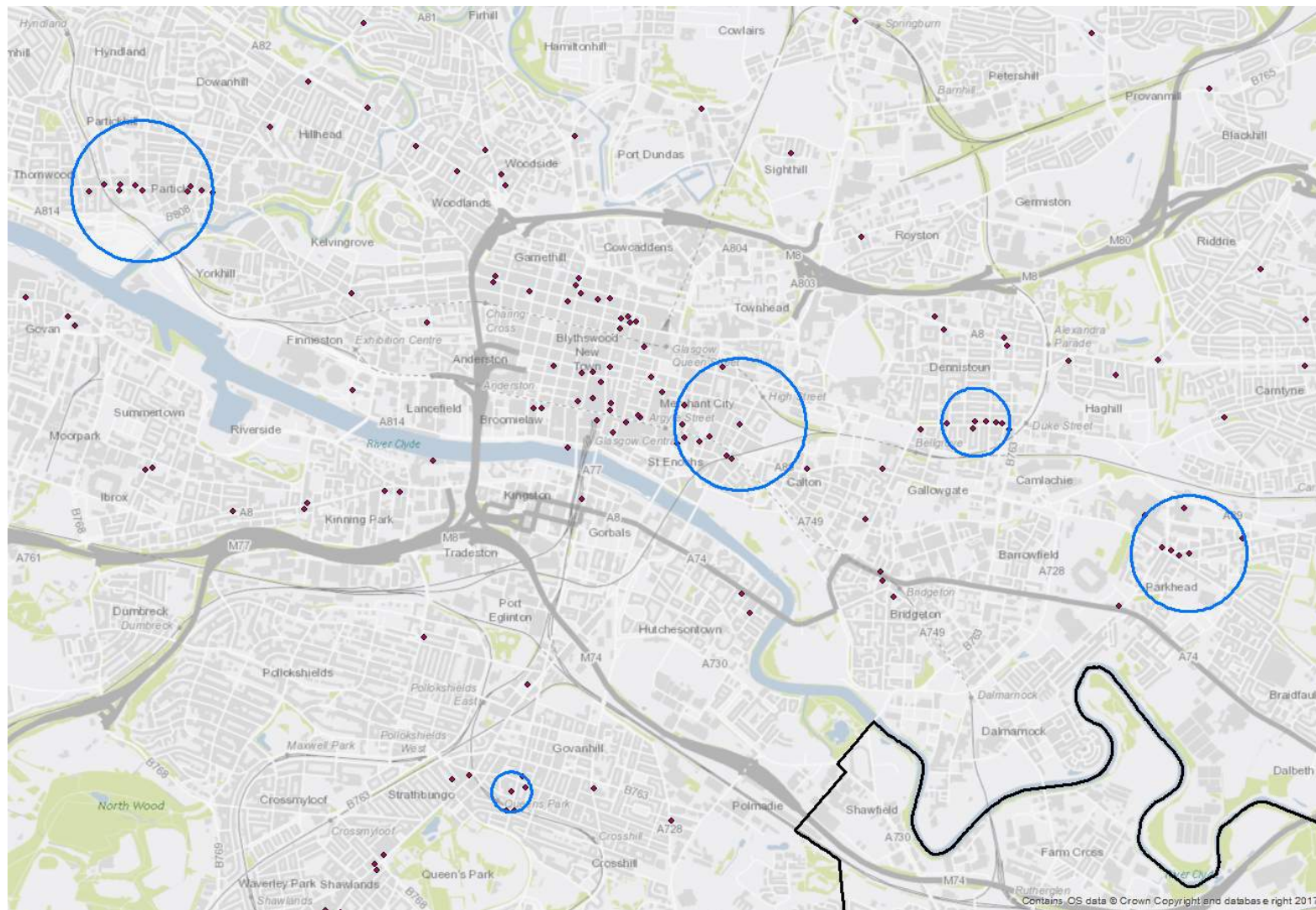
Fast food outlet clusters



Tobacco outlet clusters



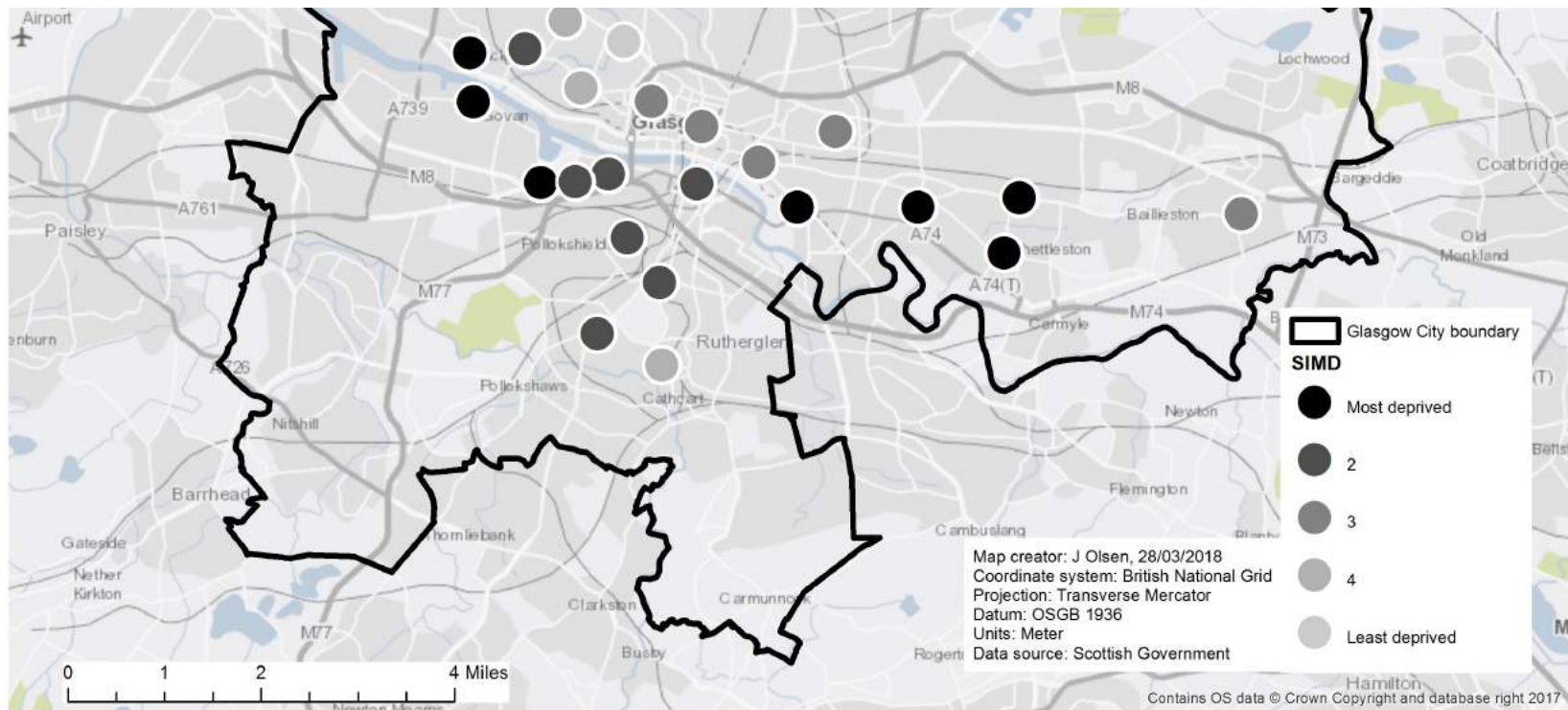
Gambling outlet clusters



All outlet clusters

Greater number of outlet clusters located within more deprived areas; all outlets (combined), alcohol, fast food, tobacco, and (slightly more) gambling outlets located within most deprived areas.

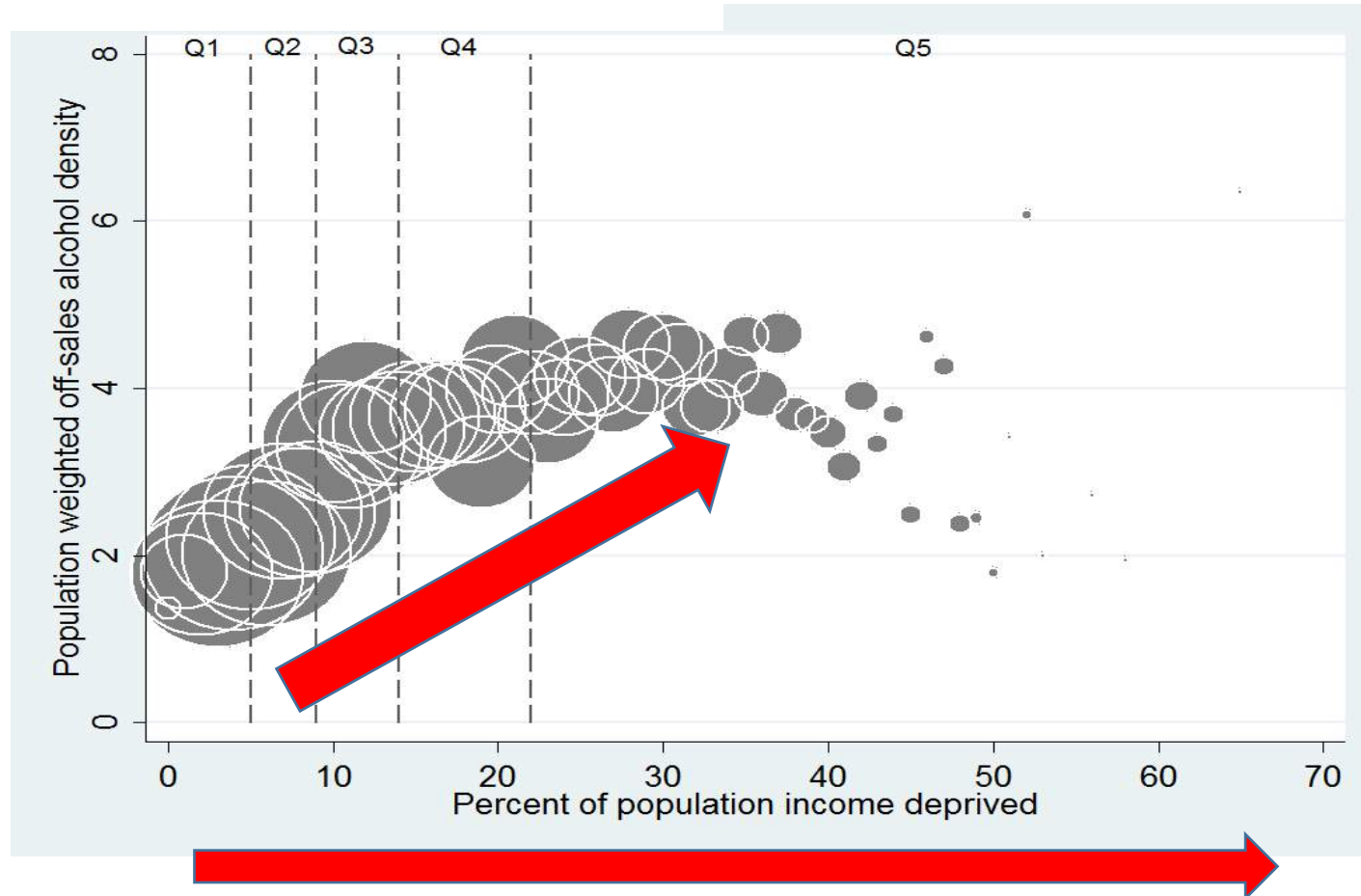
Evidence of co-location; many of the different categories of clusters located within the same areas i.e. around busy main roads, major shopping thoroughfares, highly deprived areas within east end.





A cross-sectional analysis of the relationship between tobacco and alcohol outlet density and neighbourhood deprivation

Niamh K Shortt^{1*}, Catherine Tisch¹, Jamie Pearce¹, Richard Mitchell², Elizabeth A Richardson¹, Sarah Hill³ and Jeff Collin³



Alcohol Outlet Availability and Harm in Scotland

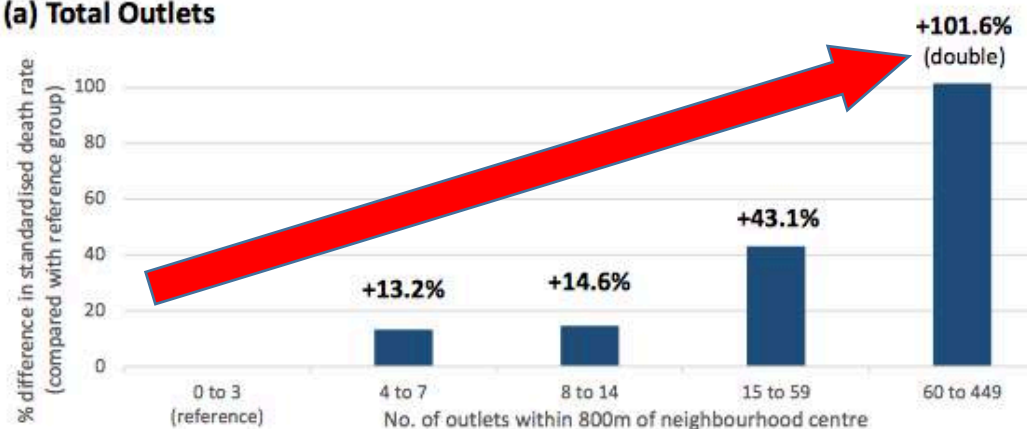
April 2018

Key findings

Across the whole of Scotland, neighbourhoods with the highest alcohol outlet availability had significantly higher rates of alcohol-related health harm and crime.

- Alcohol-related death rates in neighbourhoods with the most alcohol outlets were **double** those in neighbourhoods with the least.
- Alcohol-related hospitalisation rates in neighbourhoods with the most alcohol outlets were **almost double** those in neighbourhoods with the least.
- Crime rates were more than **four times higher** in neighbourhoods with the most alcohol outlets as compared to the least.
- Alcohol outlet availability was found to be related to health and crime outcomes for **both on-sales and off-sales outlets**, and in both **urban and rural** local authorities.
- The relationships between availability and harm were found even when other possible **explanatory factors**, such as age, sex, urban/rural status and levels of income deprivation, had been taken into account.
- There were **40% more** alcohol outlets in the most deprived neighbourhoods than in the least deprived neighbourhoods.

(a) Total Outlets



Scotland-wide alcohol-related death rate differences (%) between total outlet availability groups, and the lowest availability group

Alcohol Outlet Availability and Harm in Highland

April 2018

This document sets out the findings from research by Alcohol Focus Scotland (AFS) and the Centre for Research on Environment, Society and Health (CRESH), which investigated whether alcohol-related health harm (hospitalisations and deaths) and crime rates across Scotland were related to the local availability of alcohol outlets. The relationship between income deprivation and alcohol outlet availability was also examined.

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Key findings

- Highland is ranked **26th** out of 30 local authority areas for alcohol outlet availability in Scotland (19th for on-sales and 26th for off-sales outlets).
- Alcohol-related death rates in the neighbourhoods with the most alcohol outlets were **double** those in neighbourhoods with the least.
- Alcohol-related hospitalisation rates in the neighbourhoods with the most alcohol outlets were **2.4 times higher** than in neighbourhoods with the least.
- Crime rates in the neighbourhoods with the most alcohol outlets were **4.7 times higher** than in neighbourhoods with the least.
- The link between alcohol outlet availability and harm was **found even when other possible explanatory factors**, such as age, sex, urban/rural status and levels of income deprivation, had been taken into account.
- The most deprived neighbourhoods had **6.5 times** the number of alcohol outlets than the least deprived neighbourhoods.
- The total number of alcohol outlets in Highland increased by 26 (2.2%) from 1190 in 2012 to 1216 in 2016.

Alcohol Outlet Availability and Harm in Glasgow City

April 2018

This document sets out the findings from research by Alcohol Focus Scotland (AFS) and the Centre for Research on Environment, Society and Health (CRESH), which investigated whether alcohol-related health harm (hospitalisations and deaths) and crime rates across Scotland were related to the local availability of alcohol outlets. The relationship between income deprivation and alcohol outlet availability was also examined.

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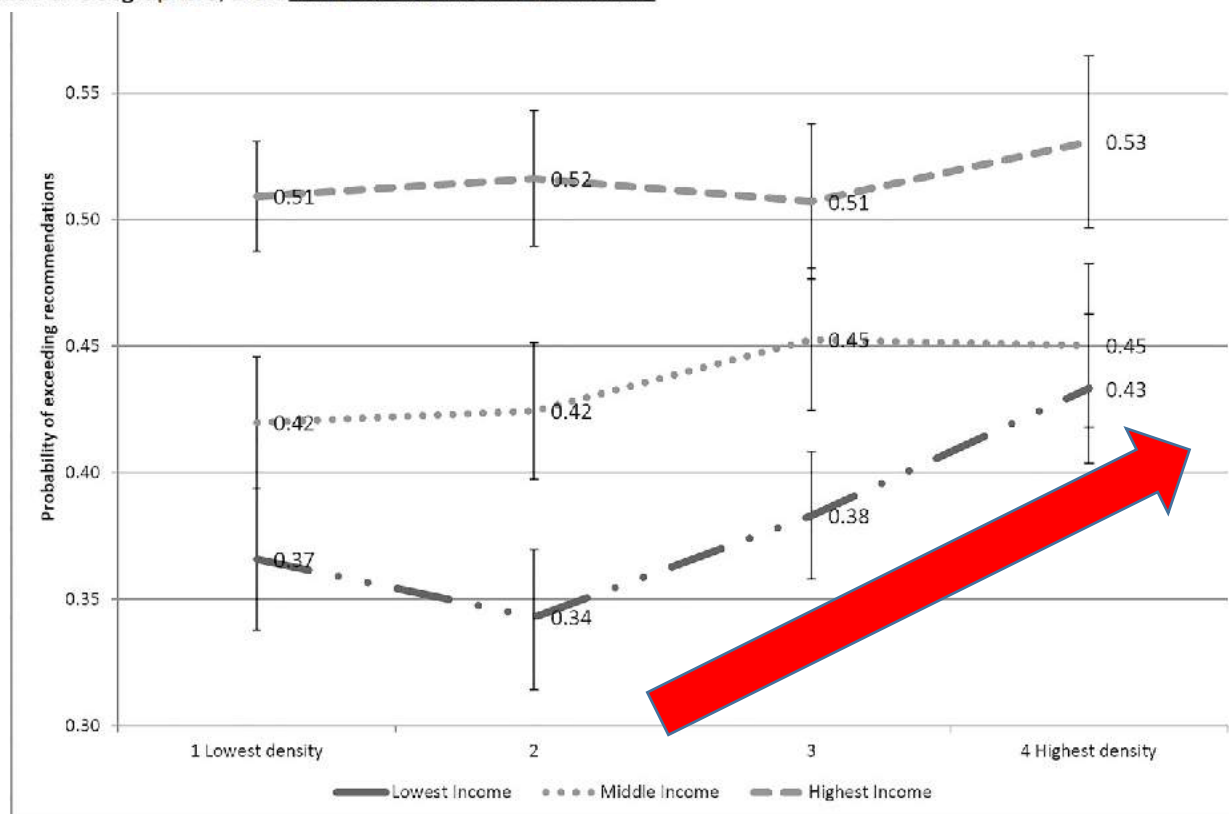
Key findings

- Glasgow City is ranked **2nd** out of 30 local authority areas for alcohol outlet availability in Scotland.
- Alcohol-related death rates in the neighbourhoods with the most alcohol outlets were **95% higher** than in neighbourhoods with the least.
- Alcohol-related hospitalisation rates in the neighbourhoods with the most alcohol outlets were **40% higher** than in neighbourhoods with the least.
- Crime rates in the neighbourhoods with the most alcohol outlets were **4.4 times higher** than in neighbourhoods with the least.
- The link between alcohol outlet availability and harm was **found even when other possible explanatory factors**, such as age, sex, urban/rural status and levels of income deprivation, had been taken into account.
- The most deprived neighbourhoods had **60% less** alcohol outlets than the least deprived neighbourhoods.
- The total number of alcohol outlets in Glasgow City increased by 118 (6.8%) from 1736 in 2012 to 1854 in 2016.

Alcohol Risk Environments, Vulnerability, and Social Inequalities in Alcohol Consumption

Niamh K. Shortt, Esther Rind, Jamie Pearce, Richard Mitchell & Sarah Curtis

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Take home points

- Environments can be either health promoting or health damaging (or both simultaneously)
- Health damaging retailers tend to cluster – we now have evidence of this for Glasgow
- Taking alcohol specifically we know that there are more outlets in more deprived areas
- Alcohol availability is associated with alcohol related harm (see AFS profiles)
- Increased alcohol availability has a disproportionate effect on lowest income groups
- Radical policies to create healthy, supportive environments are required

Policy options

- A focus on creating healthy environments and restricting unhealthy environments
- A focus on health inequalities in all policies
- WHO – action on **availability**, marketing and price
- National level leadership and local level action
- Improvements to the licensing system (What is overprovision?) – 97% of alcohol licenses are granted
- There are no restrictions for tobacco outlets (see recent NHS rapid reviews)
- Better data – on unhealthy commodities (location and sales)

Finally

- Mackenbach on Sanitary Revolution
 - You do not need to know all about disease causation to intervene effectively
 - Environmental improvements can be more effective than trying to get people to change their behaviour
 - Interventions targeted at the whole population may be more effective than those aimed at particular groups
- Can we learn from actions of the past?