Policies targeting the sale of tobacco and youth smoking behaviour

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CHAPTER 10

Findings and policy recommendations
point-of-sale measures
This chapter addresses objective two of this thesis, to examine the relationship between point-of-sale measures and youth smoking behaviour. We first provide a summary and interpretation of the findings and corresponding policy implications, and then zoom in on one future policy measure that may be of special importance for addressing point-of-sale of tobacco: a tobacco retailer licensing system.

**SUMMARY OF FINDINGS**

Part II of this thesis aimed to examine the relationship between point-of-sale measures and youth smoking behaviour. This part explored different aspects of point-of-sale measures including the visibility of tobacco products, the effect of a point-of-sale display ban on perceived accessibility and youth smoking among adolescents in Europe, and the impact of outlet density and proximity on youth smoking.

Chapter 6 described the visibility of tobacco products and advertisements in two neighbourhoods in Amsterdam, by mapping the number of tobacco retailers and measuring the internal and external visibility respectively. Retailers were located primarily on main traffic roads, on street corners, and in the close vicinity of public transportation. Eighty-two tobacco retailers were identified, among which approximately half had externally visible products and/or advertisements and more than 90% had products visible inside the store. Visibility was highest among tobacconists, but also 50% of retailers other than supermarkets (i.e. newsagents, kiosks, etc.) and 47% of supermarkets had tobacco products visible from the outside. Advertisement of tobacco brands was limited to tobacconists. The findings showed that visibility remains high across all types of retailers, including those commonly visited by youth.

Chapter 7 examined how reducing the visibility of tobacco products with a point-of-sale display ban affected the perceived accessibility and smoking prevalence among adolescents. The change in accessibility and smoking over time was compared between European countries that did and did not implement display bans. The findings showed a significant decrease in smoking prevalence with the implementation of a point-of-sale display ban. No association was found for perceived accessibility. Display bans may therefore not affect smoking prevalence by limiting access to tobacco, but through other mechanisms such as reduced exposure to tobacco branding resulting in less susceptibility and denormalisation of smoking.\(^1\)\(^-\)\(^3\)

Tobacco outlet density and proximity can reduce an adolescents’ exposure to tobacco products as it can influence the visibility and availability of tobacco.
Chapter 8 examined the association between tobacco outlet density and proximity and youth smoking behaviour by evaluating the methodological quality of the current evidence. The findings show that current evidence is varying and does not show consistent support for a positive association between tobacco outlet density and proximity and youth smoking behaviour. Studies often over-adjusted for mediators, under-adjusted for confounding, and potentially misclassified exposure measurements such that they may have over or under-estimated true associations. It is however important to note, that among the studies that did not find significant associations, the findings more often leaned towards a positive association than a negative.

POLICY RECOMMENDATIONS

Point-of-sale display and advertising bans

The study findings in Chapter 6 show that there is high internal and external visibility of tobacco products and advertisements across several types of tobacco retailers in Amsterdam. These findings suggest that exposure to tobacco products is high, especially among tobacconists and ‘other retailers’, which are often visited by youth.

Exposure to tobacco products can lead to increased susceptibility to start smoking among young people and can contribute to a positive smoking norm. A point-of-sale display ban can largely remove the visibility of tobacco products at the points of sale. As our findings in Chapter 8 show, point-of-sale display bans were associated with a reduction in smoking prevalence among youth. Some countries have implemented such a point-of-sale display ban, primarily spearhead countries including Ireland, UK, and Iceland, but many countries have yet to implement it. Of those that have, several have done so in stages- first among supermarkets and later among smaller retailers and tobacco specialist stores. Our findings emphasize that display bans should be implemented across all types of tobacco retailers, as visibility will otherwise remain high especially among retailers frequented by youth.

In addition to a point-of-sale display ban, comprehensive advertising bans would be needed to eliminate the high visibility of tobacco brands primarily among tobacconists. Advertising bans (including outdoor and point-of-sale advertising) have been found to reduce cigarette consumption. Several countries including the UK, Ireland, Norway, Finland, and Hungary have implemented point-of-sale display and advertising bans. The Netherlands plans to implement a display and advertising ban in 2020.
Plain packaging

The high visibility of cigarette branding on tobacco packs inside retailers (Chapter 6) may also be reduced via plain packaging. Plain packaging of tobacco packs can remove the attractiveness of tobacco branding and can make health warning labels more visible and effective. A 2012 review on the effects of plain packaging suggests that plain packaging can reduce smoking initiation, lead to increased quit attempts, and reduce tobacco consumption. Plain packaging has also been found to increase attention to health warning labels among experimental and weekly smoking adolescents. Several European countries including France, Ireland, the UK, Hungary, and Norway have implemented plain packaging and several others plan to implement it in the next few years including the Netherlands, Belgium, and Slovenia.

Vending machine bans

Our findings also indicate that vending machines remain an important source of cigarettes for young people. In Chapter 6 we found that of all tobacco sales in hospitality venues in two districts in Amsterdam, 82.8% was through vending machines. 30.5% of all tobaccopoints-of-sale were vending machines. Additionally, our findings in Chapter 3 clearly show that vending machines are still a commonly used source of cigarettes. 5.2% of Dutch participants, 37% of participants in Portugal, and 16% in Italy reported buying cigarettes from vending machines. Vending machine use was also reported in other countries, except Finland where vending machines have been banned since 2015. Our findings also highlighted ways via which adolescents are easily able to circumvent identification systems in place by borrowing identification cards or via non-compliant retailers willing to unlock vending machines. This finding is also supported by previous studies, showing that electronic identification systems are not sufficient to prevent access by minors.

Banning tobacco vending machines can eliminate an important source of cigarettes. Until now, 20 European countries have implemented a vending machine ban including the UK, Finland, France, Ireland, Iceland, and Norway. Yet, several countries have yet to implement such a ban including the Netherlands, where a vending machine ban will come in into force in 2022. One previous study found a reduction in recent smoking behaviour following a total vending machine ban among young people aged 19 to 24 in the U.S.. Other studies have also found a reduction in tobacco use following the implementation of a package of measures including vending machine bans. Given this evidence, a vending machine ban is encouraged.
Reducing the number of tobacco outlets

Our findings from Chapter 8 do not provide consistent evidence for an association between tobacco outlet density and proximity and youth smoking behaviour. However, the findings did show that associations more often leaned towards a positive association than negative. A previous meta-analysis also found a positive association between outlet density around homes and past 30-day smoking.\(^{25}\) In addition, there is a strong theoretical foundation to believe reducing outlet density will impact smoking behaviour among adolescents. Many researchers argue that the wide availability of tobacco products is inconsistent with the public health messages regarding the harms of smoking.\(^{26, 27}\) Therefore, reducing the number of tobacco outlets may still be favourable with regard to reducing availability of and exposure to tobacco products and can contribute to the denormalisation of smoking. Reducing the number of tobacco outlets may also facilitate the enforcement of policies such as age-of-sale laws, because there will be less outlets to be checked for compliance. Tobacco retailer licensing has been proposed as a way to improve such enforcement and to reduce tobacco outlet density. Below we zoom in on this policy measure and its potential within Europe.

**FUTURE POLICY MEASURE: TOBACCO RETAILER LICENSING IN EUROPE**

In most European countries retailers are free to sell tobacco products without a license. Tobacco retailer licensing has been proposed as a way to regulate the retail environment. A licensing system obliges retailers to obtain a license to sell tobacco products or to register as a tobacco retailer.

First, a licensing system can facilitate enforcement of age-of-sale laws by creating an overview of all retailers selling tobacco, and thereby allowing more organized compliance checks to be conducted.\(^{11, 28}\) Enforcement of age-of-sale laws is essential in determining its effectiveness, to prevent minors from continuing to access commercial sources of cigarettes as current evidence continues to show (see discussion age-of-sale laws).\(^{29}\)

Second, licensing systems can also reduce the number of tobacco outlets, especially if the license is expensive and not all retailers are able to afford it, or if there are conditions to obtaining a license such as a minimum distance between retailers or from schools. Greater availability of and exposure to tobacco outlets can lead to increased impulse purchases, increased smoking initiation, and less cessation attempts.\(^{7, 30, 31}\) While the findings from Chapter 8 in this thesis do not provide consistent evidence for a positive association between tobacco outlet density and youth smoking behaviour, there is a tendency towards a positive association. A previous meta-analysis also found a positive association between...
outlet density and past-month smoking around homes. A positive association would be expected, as was mentioned in Chapter 6, exposure to tobacco products can increase ‘perceived attractiveness of smoking and brand awareness’ and can contribute to the normalization of smoking.\(^4\)

There are various types of licensing, which can be broadly categorized into negative and positive licensing. Negative licensing requires retailers to register as a tobacco retailer without having to meet specific application criteria. Retailers that are caught selling tobacco while not being registered or those caught selling to minors can be subject to fines or lose the right to sell.\(^11, 28\) Positive licensing is a stricter form of licensing and requires retailers to apply for and purchase a tobacco retail license.\(^11, 28\) Application usually involves several conditions that retailers have to meet in order to obtain the license- the more conditions the more restrictive the licensing scheme can be. Within positive licensing schemes there are numerous variations in the types of conditions including a high licensing fee, regular renewal of licenses, zoning laws (i.e. limiting number of retailers within certain areas such as schools or limiting the distance between retailers or to schools), and/or limiting sale to specific venues.\(^11, 32, 33\)

Other techniques that have been used to limit the number of tobacco outlets via licensing include limiting the number of licenses given, no renewal of licenses if retailers have not been compliant, a lottery of a limited number of licenses, auctioning of a limited number of licenses, and a grandfathering technique (i.e. allowing already existent retailers to be exempt from new licensing laws with the underlying idea that existing retailers will disappear overtime).\(^34\)

**Current evidence on effectiveness of licensing**

Several regions in Australia, Canada, and the United States, as well as Singapore, and some countries in Europe have implemented licensing systems. A few studies have looked at the effect of licensing on the number of tobacco outlets. One study conducted in Santa Clara County, California, found a reduction of 30.6% in the number of tobacco retailers following the implementation of a strict tobacco retailer licensing system, which included restrictions to proximity from schools and proximity between tobacco retailers.\(^35\) Another study estimated the potential reduction in tobacco outlets in New Zealand if no new licensing were granted and a grandfathering technique was applied.\(^34\) This study used regular closure rates of outlets to estimate the reduction in outlets and estimated a 27% reduction by 2025, 71% by 2040 and 84% by 2050.\(^34\) Lastly, one study conducted in Southern Australia evaluated the effect of an increase in the price of a licence (from $A12.90 to $A200 per year) on license renewals, and found a decrease of 23.7% in total tobacco licenses over a time period of 2 years.\(^36\)
There have not been empirical studies on the effect of a licensing system on the compliance rates of point-of-sale policies, specifically age-of-sale laws.

Empirical evidence for the effectiveness of tobacco retailer licensing on smoking behaviour is limited. Only one longitudinal study conducted in Southern California has looked at the effect of licensing on youth smoking behaviour. This study found that participants living in communities with restrictive tobacco retail licensing had lower chances of ever-cigarette use (OR: 0.61; 95%CI: 0.41-0.90) and of past 30-day use (OR: 0.51; 95%CI: 0.29-0.89) compared to participants living in communities with weaker licensing systems.\textsuperscript{37}

**Tobacco retailer licensing in Europe**

In Europe, licensing systems have been implemented in Scotland, Ireland, Finland, Hungary, France, Italy and Spain (see Table 2). Scotland and Ireland have registration schemes (a form of negative licensing). Retailers have to register as a retailer, those that do not register and continue to sell risk a fine or prison sentence.\textsuperscript{11, 28}

Finland has a positive licensing scheme, with the aim of preventing illegal sales of tobacco to minors, requiring retailers to obtain a license that is granted by the municipality.\textsuperscript{11} Retailers have to apply and submit a self-monitoring plan, pay a licensing fee (determined at the municipal level and can range from €100-€180), pay a supervision fee of €500, and have to renew their license on a yearly basis.\textsuperscript{11, 28, 38} In Finland, a reduction in the number of outlets from 10,000 to 7,250 was found following the implementation of a licensing system (Timberlake D, 2019, written communication, February 28\textsuperscript{th}).

Hungary has implemented the most restrictive licensing system, aimed to prevent youth smoking and reduce the number of tobacco outlets.\textsuperscript{39} Retailers were required to send in an application including a business plan and pay a licensing fee, after which a selection of retailers was made by the national government. Violators of the law can be fined up to US$2.2 million.\textsuperscript{39} The number of licenses also depends on the population size—only one license is permitted per 2,000 residents.\textsuperscript{11, 28} The introduction of the licensing system in Hungary led to a reduction in outlets from 42,000 to 7,000.\textsuperscript{28, 39}

Next to these countries, France, Italy and Spain also have a type of licensing system where the sale of tobacco is limited exclusively to government-owned tobacconists (see Table 2).\textsuperscript{11, 40} France has had a state-monopoly since 1816. Tobacco retailers can apply for a 3-year license and have to meet a number of criteria including having an EU nationality, specific age, physical fitness, etc.\textsuperscript{41} Retailers also have to attend two training programmes on how to run
the business.\textsuperscript{41} In Italy, the Customs and Monopoly Agency is responsible for regulating and monitoring tobacco licensing of tobacco specialist stores. There are specific rules in place regarding the distance needed between tobacco retailers, which is dependent on the population (e.g. 300 meters between retailers in municipalities with a population of 30,000 or less).\textsuperscript{42} In Spain, the sale of tobacco is regulated by a Tobacco Market Commission - a governmental organisation.\textsuperscript{40} Retailers wanting to sell tobacco have to go through an auction procedure and a license is rewarded to the highest bidder.\textsuperscript{40} The location of the store is determined by the volume of sales in a certain area and by distance to other tobacco retailers (minimum of 150m), this is to maintain free competition between retailers.\textsuperscript{40} Both Italy and Spain also have government-owned vending machines which are placed near existing tobacco retailers.

The systems in France, Italy and Spain are currently profit-oriented. There has not been a public health goal, i.e. to reduce smoking or increase compliance of retailers to point-of-sale measures.\textsuperscript{11, 40} Findings from Chapter 4 in this thesis show that adolescents in Italy are easily able to access cigarettes from tobacconists, with 24.3% reporting buying directly from a shop. Adolescents were also asked to hide their purchased cigarettes in a bag when leaving the store, suggesting non-compliance of retailers.\textsuperscript{43} In contrast to Italy, only 3.3% of adolescents in Finland reported buying from stores. Young people perceived accessibility from stores to be difficult. The Italian findings suggest that despite the restriction of the sale of tobacco to tobacco-specialist stores, young people are still able to access cigarettes and continue smoking. Next to this study, there is no other empirical evidence to show the effectiveness of restricting sales to government-owned tobacconists on youth smoking behaviour.
### Table 2. Overview of licensing in Europe.

<table>
<thead>
<tr>
<th>Implementation date</th>
<th>License criteria</th>
<th>Conditions&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Penalties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative licensing</strong></td>
<td></td>
<td></td>
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<tr>
<td>Scotland&lt;sup&gt;44&lt;/sup&gt; April 2011</td>
<td>No license required, but tobacco retailers have to register to sell tobacco products.</td>
<td>No conditions in Scotland. Registration fee of €50 Euros in Ireland.</td>
<td>Can be fined or imprisoned if not registered as a retailer or break the law (i.e. selling to minors).</td>
</tr>
<tr>
<td>Ireland&lt;sup&gt;45&lt;/sup&gt; July 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Positive licensing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finland&lt;sup&gt;38&lt;/sup&gt; April 2009</td>
<td>Retailers are required to have a license to sell tobacco.</td>
<td>A license is granted by the municipality. Retailers are required to submit a self-monitoring plan and pay licensing (€100-€180) and supervision fees (max. €500 per point-of-sale).</td>
<td>Fines or imprisonment of maximum 6 months if retailers are caught selling to minors.</td>
</tr>
<tr>
<td>Hungary&lt;sup&gt;28, 39&lt;/sup&gt; July 2013</td>
<td>Retailers are required to have a license to sell tobacco.</td>
<td>Retailers have to apply for a license, they must submit a business plan and pay a licensing fee. The national government determines which retailers are selected. Only one retailer is allowed per 2,000 inhabitants.</td>
<td>Fines for selling to minors or selling without a license can go up to US$2.2 million dollars.</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>France&lt;sup&gt;11, 41, 46, 47&lt;/sup&gt; 1816</td>
<td>All sale is limited to state-owned tobacconists.</td>
<td>Retailers are not allowed to own more than one tobacco outlet. A 3 year license is given and retailers have to attend two training sessions. Proximity measures are in place, retailers have to be a certain distance from schools or other youth centres. Vending machines are banned.</td>
<td>None found.</td>
</tr>
<tr>
<td>Italy&lt;sup&gt;42, 48&lt;/sup&gt; Exact date could not be found, approximately beginning 1900s.</td>
<td>All sale is limited to state-owned tobacconists and vending machines.</td>
<td>Retailers have to maintain certain distances between each other, depending on population per municipality.</td>
<td>Fine for selling to minors (500-3,000) and suspension of license for 15 days.</td>
</tr>
<tr>
<td>Spain&lt;sup&gt;40, 49&lt;/sup&gt; 1998</td>
<td>Sale is limited to government-owned tobacconists and vending machines owned by these establishments.</td>
<td>There must be a minimum distance between retailers and minimum distance to schools. Licenses are valid for 25 years.</td>
<td>None found.</td>
</tr>
</tbody>
</table>

<sup>a</sup>Conditions refer to a set of criteria that a retailer has to meet in order to be classified as a tobacco retailer or to obtain a license.
Adoption in Europe

While some countries in Europe have adopted a licensing system, they form a minority. In this next section we explore the potential for more European countries to adopt such systems. We will zoom in on the guidelines put forth internationally and look at the processes of adoption in countries with licensing schemes.

Tobacco retailer licensing is recommended in the WHO FCTC Supply Chain Control Article 6 Protocol to Eliminate Illicit Trade in Tobacco Products. The protocol’s objective is to eliminate “all forms of illicit trade in tobacco products” by focusing on the supply chain of tobacco. The protocol states that “each party shall endeavour to license, to the extent considered appropriate, and when the following activities are not prohibited by national law, any natural or legal person engaged in a) retailing of tobacco products…” The protocol also provides details as to what licensing should entail, suggesting a positive licensing system by requiring detailed registration of retailers, licensing fees, auditing of licenses on a regular basis, and a licensing time-frame.

In Europe, the decision to adopt a licensing system lies at the national level. Unfortunately, several countries have failed to adopt an initially proposed positive licensing system including Norway, Scotland and Ireland. In Norway, a licensing system to be implemented at the municipal level was first proposed in the national report for ‘A tobacco-free future 2013-2016’. The main reason for proposing adoption was to improve enforcement of age-of-sale laws. This licensing system was never implemented as there was strong opposition from retailers and in the meantime a new government came to power. The new government may choose for a “less bureaucratic solution” such as a registration system. In Scotland similar issues were faced, the government also chose a registration system instead of a positive licensing scheme to limit the “burden on local authorities and retailers.”

Hungary illustrates a case where the government successfully adopted and implemented a positive licensing system. In Hungary, there was opposition from civil society and tobacco retailers. Following the selection of retailers to receive a license, critics accused the government of conceding licenses only to those with “close political ties to the right-wing ruling party” and argued that there was a lack of transparency with regards to retailer selection. The government claimed that these accusations were supported by the tobacco industry. Two successful European court cases have also taken place against the Hungarian government by previous tobacco retailers that were no longer allowed to sell tobacco and had received no legal reimbursement. Nevertheless, as Caceres et al. (2013) states “Hungary has shown that the tobacco retail sector can be overhauled with planning and political will.”

In Finland, the adoption of a positive licensing scheme seems to have been brought forth together with the ambitious aim of the government to end smoking in Finland and protect young people.\textsuperscript{11, 38} We did not come across any reports of opposition.

**Conditions for adoption**

Based on the cases above, there are several important elements to establish effective licensing systems, including a positive licensing scheme, a public health motive, and sufficient enforcement of the system. First, a positive licensing system, as proposed by the WHO FCTC Article 6 Illicit trade protocol, is the strictest form of licensing obliging retailers to meet a set of conditions. Such a system could lead to improved screening and monitoring of tobacco retailers, and depending on the conditions required, may result in improved retailer compliance if risk of losing the license or corresponding fees are high enough. Second, a public health motive could contribute to stricter licensing condition being adopted and may result in greater retailer support.\textsuperscript{53} Lastly, in order for a licensing system to be effective, sufficient enforcement needs to be in place to ensure retailers are being compliant and not selling without a license.

The previous experiences of countries in Europe also point out several important conditions for the adoption of licensing systems including preparing for retailer opposition, sufficient political support, and proposing licensing as a way to protect youth. Opposition from retailers was in some countries a barrier for adoption (e.g. in Norway) and in other countries a result of the implementation of a licensing scheme (e.g. in Hungary). Such opposition can be taken into account when adopting a licensing scheme, when an evaluation of the situation at the national level can provide insight into how extensive such opposition can be. Governments can find ways to reduce or limit opposition by providing financial incentives or applying a grandfathering technique. Political support is also an important driving factor for adoption, as was seen in Norway and Scotland the governments chose not to implement a positive licensing system due to its bureaucracy. Framing licensing as way to protect children could prove to be valuable in the adoption of licensing systems and increasing political support. Kuijpers et al. (2018) found an association with a positive attitude towards youth-protection and support for tobacco control policy.\textsuperscript{54} The previously-mentioned qualitative study from New Zealand also highlighted the fact that framing the purpose of licensing systems as a way to protect youth, could be beneficial in gaining support.\textsuperscript{53}

Five European countries have embraced a smoke-free generation movement with the main aims of allowing new generations to grow up smoke-free and to reduce the overall prevalence of smoking under 5%. These countries include Scotland,
Ireland, the Netherlands, Finland and France. Some other countries have started similar initiatives including Belgium, England and Sweden. These countries are adopting more restrictive measures to further denormalise smoking and to reduce the availability of tobacco. In the Netherlands, for example, regulation of the retail environment has increasingly gained attention. In 2016, the ‘Eigenlijk best gek he?’ (translation: ‘actually pretty crazy?’) campaign was started which focused on the high level of availability of tobacco products (e.g. more selling points for tobacco than for bread). Additionally, in 2018 the national Prevention Accord was published outlining the ambitions of the national government for the prevention of smoking. One of the policy intentions in this accord was the reduction in the number of tobacco retailers. Licensing systems may fit well within the smoke-free generation trend when more comprehensive tobacco control policies will be considered and adopted in order to better control and monitor the retail environment.

While the previously discussed cases have provided some insights into licensing experiences thus far, further research is needed to pave the way for licensing in Europe as current evidence on the effectiveness of licensing and the adoption and implementation processes remains limited. Research is needed to examine the feasibility of adoption at the national level by identifying country-specific barriers, possibilities and best practices. In addition, research is needed to identify which licensing conditions can be most effective within different national contexts, as it is unlikely to be a one-size-fits-all solution.

Conclusion

Tobacco retailer licensing is a promising way to improve the enforcement of point-of-sale measures and to reduce the number of tobacco retailers. Strong political support, the smoke-free generation movement, and a strong focus on the protection of youth can aid countries in adopting licensing systems. Future research can provide additional evidence to support adoption and effective implementation.
REFERENCES


