



National Institute
of **Public Health**

A 3D rendered image of a chain of cigarettes. The cigarettes are white with brown filters and are arranged in a curved path. A large, dense cloud of brown and grey smoke and ash is being released from the cigarettes, filling the center of the frame. The background is a bright, warm orange gradient.

**CHANGES IN SMOKING BEHAVIOUR
AFTER ENFORCEMENT OF THE FIRST
MEASURES OF RESTRICTION ON THE
USE OF TOBACCO AND RELATED
PRODUCTS ACT – SUMMARY**

CHANGES IN SMOKING BEHAVIOUR AFTER ENFORCEMENT OF THE FIRST MEASURES
OF RESTRICTION ON THE USE OF TOBACCO AND RELATED PRODUCTS ACT — SUMMARY IN ENGLISH

Scientific monograph

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Publisher

National Institute of Public Health, Trubarjeva 2, 1000 Ljubljana, Slovenia

Publication year

2020

Electronic edition.

Website: <https://www.nijz.si/>

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CHANGES IN SMOKING BEHAVIOUR AFTER ENFORCEMENT OF THE FIRST MEASURES OF RESTRICTION ON THE USE OF TOBACCO AND RELATED PRODUCTS ACT – SUMMARY

The aim of this monograph is to review the literature on efficiency of selected tobacco control measures and to present latest Slovenian data on changes in smoking behaviour and other relevant indicators after the implementation of new tobacco control measures of the Restriction on the Use of Tobacco Products and Related Products Act, which was adopted in Slovenia in February 2017.

Data from available literature and research confirm the efficiency of selected tobacco control measures, namely pictorial warnings, ban on advertising and display of tobacco products, ban on smoking in all vehicles in the presence of a minor, and the ban on flavours in tobacco products.

After enforcing a part of measures of the Restriction on the Use of Tobacco Products and Related Products Act, we are recording the reduction of smoking prevalence among young people and favourable changes in numerous other more specific indicators of the effects of individual enforced measures. To assess the impact of the entire package of measures of the Act, it is necessary to wait for further research, which will include the period of the implementation of all measures and also later periods, as these are measures with long-term effects. When several different measures are implemented in a shorter period, it is not possible to assess the impact of an individual measure, except in case of specific impact indicators for individual measures. New or previously implemented programmes and activities for smoking prevention and reduction, as well as communication campaigns and media exposure of the topics could also influence the changes in smoking behaviour and related indicators.

Data for Slovenia are available from three surveys covering the period up to November 2018. The monograph thus includes all measures that came into force in Slovenia by November 2018, namely the ban on characterising flavours (except menthol) in cigarettes and roll-your-own tobacco, the ban on smoking in all vehicles in the presence of a minor, the ban on the related products sales to minors, pictorial health warnings on the packaging of tobacco products for smoking, and a total ban on the advertising of tobacco products and a ban on the display of tobacco and related products. Two out of three surveys were conducted among young people and one among the general population. Most of the data were obtained from the survey, entitled Evaluating the Impacts of New Tobacco Control Measures Among Young People, which is the first and only research in Slovenia that comprehensively monitors the impacts of the new legislation in the field of tobacco control among adolescents, as young people (children, adolescents, young adults) are the key target group of the Act. The other two surveys, from which we obtained the data, are the Health Behaviour in School-Aged Children and The National Survey on Tobacco, Alcohol and Other Drugs.

Surveys enable the situation comparison before and after the enforcement of the new measures, namely pictorial warnings, the ban on advertising of tobacco products and the ban on the display of tobacco and related products, and the ban on smoking in all vehicles in the presence of a minor. Below, we first summarize the changes for the measures of more specific indicators.

After the enforcement of pictorial warnings, we are recording favourable changes among 16-year-olds in most of the monitored measure-specific indicators, such as attention to health warnings, thinking and talking about health warnings and thinking about quitting smoking due to health warnings.

After the enforcement of pictorial warnings, the percentage of 16-year-olds, who have paid attention to health warnings at least once or twice in the past six months, increased from 53% to 64%.

After the enforcement of pictorial warnings, the percentage of 16-year-olds, who have thought about health warnings at least once or twice in the past six months, has increased from 51% to 63%.

After the enforcement of pictorial warnings, the percentage of 16-year-olds, who have talked with others about health warnings at least once or twice in the past six months, has increased from 39% to 49%.

After the enforcement of pictorial warnings, the percentage of 16-year-olds, who have thought about quitting smoking at least once or twice in the past six months due to health warnings, has increased from 53% to 64%.

After the enforcement of pictorial warnings, we recorded more favourable changes in attention to health warnings, thinking and talking about them and thinking about quitting smoking due to health warnings among 16-year-old boys; however, a higher percentage of 16-year-old girls still reads health warnings, talks about them with others and thinks about quitting smoking due to them in comparison to boys.

After the enforcement of pictorial warnings, the overall percentage of 16-year-olds who did not smoke a cigarette due to a health warning has increased from 30% to 38%. Altogether, for both genders, the percentage of 16-year-olds who smoked a cigarette due to health warnings has also increased, namely from 15% to 27%. There are no gender differences in these percentages before and after the enforcement of pictorial warnings.

After the enforcement of pictorial warnings, the attractiveness of cigarette and roll-your-own tobacco packaging and the attractiveness of smoking cigarettes and roll-your-own tobacco have decreased. The differences were also recorded in the attractiveness of the packaging of individual cigarette and roll-your-own tobacco brands.

After the enforcement of pictorial warnings, reading of health warnings has not changed. The percentage of 16-year-olds who read health warnings ranges between 65% and 70% in both years of the research.

After the enforcement of pictorial warnings, the knowledge about the harmful effects of smoking listed in health warnings has not changed. However, we note an increase in agreement with certain statements in health warnings. The largest change was recorded in the new warning stating that smoking increases the risk of blindness, and increases are also recorded in individual harmful effects of smoking on cardiovascular system.

After enforcement of the ban on advertising and display of tobacco products and ban on display of electronic cigarettes, the percentage of 16-year-olds exposed to advertising and display has decreased. We note more favourable changes among girls than among boys. The percentages of adolescents exposed to the marketing of tobacco and related products at points of sale remain very high despite the bans.

After the enforcement of a total ban on advertising of tobacco products, the percentage of 16-year-olds exposed to advertising of tobacco products at points of sale has decreased from 62% to 56%.

After the enforcement of a total ban on display of tobacco products, the percentage of 16-year-olds exposed to displayed tobacco products at points of sale has decreased from 81% to 71%.

After the enforcement of a total ban on display of e-cigarettes, the percentage of 16-year-olds exposed to displayed e-cigarettes at points of sale has decreased from 24% to 19%.

The percentage of 16-year-old adolescents exposed to at least one form of marketing of tobacco products at points of sale has decreased from 91% to 84% since the enforcement of the ban on advertising and display of tobacco products but remains very high.

The percentage of 16-year-old adolescents exposed to at least one form of marketing of e-cigarettes at points of sale has not changed since the enforcement of the ban on advertising of e-cigarettes and it equals 36%.

In addition to further identification of possible other causes for the high percentage of young people exposed to various forms of marketing of tobacco products and e-cigarettes at points of sale, even during the total ban on advertising, display and promotion, there is a need for a strict enforcement of legislation and additional regulation of the retail market in sense of reducing the number of points of sale, the regulation of the types and location of tobacco and related products points of sale.

After the enforcement of a ban on smoking in all vehicles in the presence of a minor, the percentage of 16-year-old adolescents exposed to second-hand tobacco smoke in vehicles and in all enclosed spaces has decreased, altogether and in each environment separately.

After the enforcement of a ban on smoking in all vehicles in the presence of a minor, the percentage of non-smoking 16-year-old adolescents who are not exposed to tobacco smoke in vehicles has increased from 45% to 51%.

After the enforcement of a ban on smoking in all vehicles in the presence of a minor, the percentage of non-smoking 16-year-old adolescents who are not exposed to tobacco smoke in any sort of enclosed spaces except in vehicles has increased from 21% to 26%.

After the enforcement of a ban on smoking in all vehicles in the presence of a minor, the percentage of non-smoking 16-year-old adolescents who are not exposed to tobacco smoke in any sort of enclosed spaces and/or vehicles has increased from 16% to 20%.

Even after the enforcement of a ban on smoking in all vehicles in the presence of a minor, the percentage of non-smoking 16-year-olds who are exposed to tobacco smoke in any enclosed spaces and/or vehicles remain high. As many as 24% of non-smoking 16-year-olds are exposed to tobacco smoke daily in any enclosed spaces and/or vehicles –15% weekly, 12% monthly, and 29% less than monthly.

The still high extent of exposure to tobacco smoke among adolescents indicates the need for further measures in this area, especially those targeted at the home environment or other enclosed spaces where adolescents could be exposed to second-hand tobacco smoke.

Studies do not enable the comparison of the situation before and after the enforcement of the ban on characterising flavours (except menthol) in cigarettes and roll-your-own tobacco and the ban on the sale of related products to minors.

Based on available data, we cannot currently conclude whether the ban on characterising flavours in cigarettes and roll-your-own tobacco among adolescents has led to a reduction in the use of flavoured products or a reduction in the use of flavoured products in general. However, data suggest that there is a shift among adolescents from cigarettes to other tobacco and related products, in which characterising flavours remain permitted, whereas the ban on characterising flavours in cigarettes and roll-your-own tobacco may have even accelerated this transition. This points to the need to ban (characterising) flavours in all different products, not just cigarettes and roll-your-own tobacco.

After the enforcement of a ban on the sale of e-cigarettes to minors, the perceived availability of e-cigarettes from commercial sources among minors decreased, while the percentage of refusals to sell and requests for identity documents by retailers increased.

After the enforcement of a ban on the sale of e-cigarettes to minors, the perceived availability of e-cigarettes from commercial sources remains significant, despite favourable changes. 32% of minors believe that they could (very) easily buy e-cigarettes themselves.

Changes in smoking behaviour may be related to various already implemented measures of the Restriction on the Use of Tobacco Products and Related Products Act, so we present them separately. When several different measures are enforced in a shorter period, it is not possible to assess the impact of each individual measure. **New or previously implemented programmes and activities for smoking prevention and reduction, as well as communication campaigns and media exposure of the topics could also influence the changes in smoking behaviour and related indicators.**

After the enforcement of a part of measures of the new Act, we are recording a number of favourable changes in terms of the reduction of tobacco and related products use among adolescents, however the prevalence of tobacco and related products use among adolescents still remains high.

After the enforcement of a part of the measures of the new Act, we record the following among 16-year-old adolescents:

- a decrease in the percentage of ever cigarette smokers from 59% to 50%;
- a decrease in the percentage of cigarette smokers in the last 12 months from 41% to 34%;
- a decrease in the percentage of cigarette smokers in the last 30 days from 31% to 27%;
- an increase in the percentage of those who have never smoked and are also not susceptible to smoking from 32% to 40%;
- an increase in the percentage of those who do not have anyone who smokes tobacco among their five closest friends from 41% to 51%;
- a decrease in the percentage of ever e-cigarette users from 37% to 31%;
- a decrease in the percentage of e-cigarette users in the last 30 days from 12% to 9%;
- a decrease in the percentage of ever hookah users from 31% to 22%;
- a decrease in the percentage of ever users of at least one tobacco product from 65% to 54%;
- a decrease in the percentage of users of at least one tobacco or related product in the last 30 days from 34% to 30%.

All percentages, except the percentage of ever e-cigarette users and in the last 30 days, have decreased in both genders.

While there is no gender difference in the percentage of ever users of at least one tobacco product or e-cigarettes and in the percentage of users of at least one tobacco or related product in the last 30 days, significant gender differences exist in the use of individual sorts of products. The percentages of ever cigarette smokers, smokers in the last 12 months and smokers in the last 30 days are higher among girls than boys. For other tobacco products and e-cigarettes, the percentages of users are higher among boys than girls.

After the enforcement of part of measures of the new Act, the intentions of 16-year-olds to smoke cigarettes the same time next year have not changed; in 2018, 57% of 16-year-olds are convinced that they will not smoke in a year.

After the enforcement of part of measures of the new Act, the percentage of 16-year-olds who smoked cigarettes for the first time at the age of 13 or less has not changed; in 2018, 14% of 16-year-olds stated that they smoked cigarettes for the first time at the age of 13 or less.

After the enforcement of part of measures of the new Act, the frequency of cigarette smoking in the last 30 days among 16-year-olds has not changed.

After the enforcement of part of measures of the new Act, the overestimation of smoking among 16-year-olds has not changed and it remains significant. Most, that is 72%, of 16-year-olds estimate that the percentage of tobacco smokers among their peers is higher than 30%; on average, they estimate that about half of their peers are smokers. The percentage of tobacco smokers among peers is overestimated by a higher percentage of girls than boys, and girls also overestimate tobacco smoking among peers more than boys.

After the enforcement of part of measures of the new Act, the percentage of users of tobacco for oral use among 16-year-olds increased from 8% to 11%.

As the data show, the scope of tobacco products use is changing in terms of reducing the use of traditional tobacco products, such as cigarettes, and increasing the popularity and use of newer products, such as e-cigarettes and heated tobacco products. The percentage of users of both products among 16-year-olds significantly exceeds the percentage of users among the general population. Primarily boys are switching to new products. The changes can be mainly linked to the arrival of new products and less to the effects of new tobacco control measures.

It is necessary to further monitor the developments and effects of already enforced measures, work intensively to ensure maximum compliance with existing legislation and to identify, supplement and introduce the necessary effective additional measures and programmes to prevent and reduce the use of tobacco, related and various new nicotine products among adolescents.

The study in the general population shows that the percentage of smokers in the general population in both genders has not changed and remains close to a quarter, but also that the percentage of smokers decreased among minors of both genders.

In one of our studies, we have also noted the situation in the field of availability of tobacco products before the enforcement of permits for the sale of tobacco and related products.

Before the enforcement of permits for the sale of tobacco and related products, the perceived availability of cigarettes and roll-your-own tobacco from commercial sources decreased among minors but remains significant. 39% of minors believe that they could (very) easily buy cigarettes or roll-your-own tobacco themselves, and as many as 65% think that they could (very) easily buy cigarettes with the help of a substitute buyer.

Before the enforcement of permits for the sale of tobacco and related products, the majority (about two thirds or more) minors could buy cigarettes or roll-your-own tobacco without any major problems in terms of rejection or identity document requirement by the retailer.

After the enforcement of a ban on the sale of e-cigarettes to minors and before the enforcement of permits for the sale of tobacco and related products, the majority (just over two thirds or more) of minors could purchase e-cigarettes without major troubles in terms of rejection or identity document requirement by the retailer.

This monograph is the first comprehensive review of changes in smoking behaviour and other relevant indicators since the enforcement of those new measures of the Restriction on the Use of Tobacco Products and Related Products Act, which were enforced by November 2018. Monograph also includes a comprehensive review of literature on the efficiency of these measures of tobacco control, which is first such review after 2013 in Slovenia. The surveys, whose data we use in the monograph, have certain limitations, such as the time placement of surveys, the convenience sample in one of the surveys and the long period of time between the first implementation of the survey and the adoption of new measures in two surveys. Another limitation is also the type of surveys included in the monograph – all three are cross-sectional, and as such do not provide insight into the chronology of events or causality. Regardless of the above limitations, the surveys included in the monograph provide quality data on changes in smoking behaviour and relevant indicators following the introduction of new tobacco control measures. It should be reiterated that when several different measures are enforced in a shorter period, it is not possible to assess the impact of each individual measure, except in case of specific impact indicators of individual measures. Changes in the field of smoking behaviour and related indicators could also be influenced by programmes and activities for smoking prevention and reduction, as well as communication campaigns and media exposure of the topics, which were introduced or implemented in the same period. It is crucial that we continue to monitor the effects of the new measures of the Restriction on the Use of Tobacco Products and Related Products Act even after the enforcement of all measures of the Act, namely in the long run, as this is a package of long-term measures that will show their full impact only after a long time.

While monitoring the developments before and after the enforcement of new tobacco control measures, we came to some additional key findings. We find that the percentages of adolescents exposed to marketing of tobacco and related products at points of sale remain high despite the complete ban on advertising and display. Perhaps the reason for this lies in the remaining hints about selling tobacco products, such as tobacco storage units near cash registers that remain visible, and visible products in the sales process, or even incentives that the industry is most likely offering to retailers in Slovenia, as reported from other countries. Maybe the reason is in the marketing of different accessories or maybe new nicotine products, such as nicotine pouches. The reason for the high percentage of exposed people may be the violations of bans, but after 2017, the market inspectors are perceiving significantly less of those than before. The problem could also be in the surveyed adolescents' understanding of the term advertising and display at the point of sale. An important factor that can significantly contribute to the percentage of exposed, is the high number of points of sale of tobacco and related products in Slovenia (over 6000), which may be the reason that violations are difficult to detect or it is difficult to ensure strict compliance with legislation. In the view of the above, we believe that it **is sensible to enforce measures, such as reducing the number of points of sale and regulating the types and locations of points of sale (e.g. their bans in certain locations, e.g. near schools and where young people are gathering), ban on marketing of accessory products, various products with nicotine (inclusion in legislation, not just bans on advertising through Article 29 of currently valid Act) and ban on promotional communication between industry and retailers.**

We also find that despite smoking bans in all enclosed public and work spaces and in all vehicles in the presence of a minor, the percentages of adolescents exposed to tobacco smoke are still high. Other research shows that the percentages of non-smokers exposed to tobacco smoke in the general population are also high. This indicates the need for further action to reduce the exposure to second-hand smoke. **It is thus sensible to introduce a general ban on smoking in vehicles, both to facilitate strict enforcement of the ban and from the point of view of safe driving, as smoking while driving reduces driver's concentration, responsiveness to road conditions and increases the risk of accidents. Additional programmes and activities are needed, such as communication campaigns, awareness-raising and counselling programmes for smoke-free and related products' aerosol-free home living environment and vehicles. There is a need to further increase the number of smoke-free environments through legislative or local action.**

Data from our surveys show that there is a shift among adolescents from cigarettes to other tobacco and related products. The use of classic tobacco products, i.e. cigarettes, is decreasing, whereas the popularity and use of newer products, such as e-cigarettes and heated tobacco products, and some non-traditional products, e.g. tobacco for oral use (snus). The percentage of users of these products among 16-year-olds significantly exceeds the percentage of users among the general population. There are important gender differences in this shift; primarily boys are switching to new products; girls already prevail in smoking cigarettes, while in other tobacco products and e-cigarettes the percentage of users is higher among boys. These changes can probably be mainly related to the arrival of new products in recent years, and less to the effects of new tobacco control measures. Reasons for the shift could be greater attractiveness of these products, the availability of many attractive flavours, the misperception of minor harmful effects, etc., while the ban on characterising flavours in cigarettes and roll-your-own tobacco could maybe even stimulate this shift. Furthermore, additional new nicotine products are appearing on the Slovenian market, e.g. the so-called nicotine pouches. **This points to the need to regulate all nicotine products and to extend the ban on (characterising) flavours to all different products, not just cigarettes and roll-your-own tobacco.**

In the period before the introduction of permits for the sale, the availability of tobacco and related products to minors was high, which should change significantly after the introduction of permits, and strict monitoring of implementation and high compliance with the legislation are key to this. **In the availability of tobacco and related products to minors, the high perceived availability of cigarettes and roll-your-own tobacco with the help of a replacement buyer stands out, which indicates the rationale for introducing measures to reduce replacement purchases.** It is also important to carry out controls using the *Mystery Shopping* approach also for e-cigarettes. Our data show that the percentage of underage costumers who have never been refused a purchase by a retailer or have never been asked for an identity document is much higher for underage buyers of e-cigarettes (more than half) than for underage buyers of cigarettes and roll-your-own tobacco (approximately one third). However, the reports of Market Inspectorate of the Republic of Slovenia for 2018 and 2019 do not show that control over the implementation of the ban on the sale of e-cigarettes to minors is being carried out. In contrast to tobacco products, where online shopping is one of the least used shopping methods among minors, the Internet is a more important source of e-cigarette shopping among minors. A good fifth of minors are buying e-cigarettes online. **In Slovenia, the online sale of related products within the country and from third countries is prohibited (Restriction of the Use of Tobacco Products and Related Products Act 2017), so these are the purchases from websites from other EU member states, which requires additional agreements to stop online sale of tobacco and related products to Slovenia.**



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