
Out and About Project: Snapshot of e-cigarette accessibility in Brimbank

Prepared by the Western Public Health Unit

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Acknowledgement of Country

Western Health acknowledges the Traditional Custodians of the land on which our sites stand, the Wurundjeri Woi-Wurrung, Boon Wurrung and Bunurong peoples of the greater Kulin Nation. We pay respects to Elders past, present and emerging. We are committed to the healing of country, working towards equity in health outcomes, and the ongoing journey of reconciliation.

Western Health is committed to respectfully listening and learning from Aboriginal and/or Torres Strait Islander people and wholeheartedly supports their journey to self-determination.



Photo: Maribyrong mural at Braybrook Community Hub

Executive Summary

Background

E-cigarettes (commonly known as vapes) are a significant and emerging public health challenge. There is growing body of evidence that e-cigarette use can lead to nicotine addiction and a transition to cigarettes, with the normalisation of vaping in children and young people occurring in Australia and Victoria. Reducing vaping and tobacco-related harm has been identified as a priority by 6 of 8 local government areas (LGAs) within Western Public Health Unit (WPHU) catchment and is one of three priorities outlined in the [WPHU Population Health Catchment Plan](#).

Purpose

Gaining an in depth understanding of the accessibility of non-prescription e-cigarettes within our catchment will help to inform the strategies and initiatives delivered by WPHU and our catchment partners to reduce e-cigarette and tobacco-related harm, as well as inform future advocacy and policy development.

Methods

We identified commercial and shopping areas in the City of Brimbank (Brimbank) and conducted field trips to collect (1) store name, (2) type of store, (3) address and (4) coordinates of stores selling e-cigarettes. Location of stores were mapped to schools and sport, leisure and recreation facilities. Additional qualitative reflections were recorded following site visits from data collectors.

Results

Data was collected between 31 May and 26 June 2023 over 17 field trips which identified 59 retailers in Brimbank selling e-cigarettes. Of these, 21 were tobacco and vaping stores, 18 were grocery and convenience stores, 8 were liquor stores, 7 were non-food stores, 3 were café and/or food stores, and 2 were fuel stores. Observational data found e-cigarettes were bright and appealing and had enticing flavours like candy and ice-cream flavours. Prices of e-cigarettes ranged from \$10.00 - \$45.00, with the median price reported as \$25.00.

Almost half (29/59) of stores selling e-cigarettes were located in commercial precincts around the Sunshine (n=10) and St Albans (n=9) train stations, Ballarat Road in Deer Park (n=6) and Watergardens station (n=4). The median distance from a school to the nearest e-cigarette retailer was 741m, and 70 percent (40/57) of schools in Brimbank were located less than 1km from the nearest e-cigarette retailer. The median distance between a sport, recreation and leisure facility and a retailer selling e-cigarettes was 813m.

Implications

To our knowledge, this is the first project to quantify the accessibility of e-cigarette retailers within a LGA within Victoria, and the proximity of these retailers to settings that children and young people frequent. This project has highlighted that e-cigarettes are being sold at a range of retailers, in close proximity to schools, and are easily accessible to children and young people. The findings from this project will help to inform future advocacy, policy and legislation of e-cigarettes in Victoria, as well as inform the strategies and initiatives delivered by WPHU and our catchment partners to reduce vaping and tobacco related harm.

About the Western Public Health Unit

The Western Public Health Unit (WPHU) is a local public health unit that sits within Western Health. We work within a network of Local Public Health Units (LPHUs) across Victoria and with the Department of Health to deliver public health interventions to the people of eight local government areas in central and west Melbourne.

WPHU's catchment is in the central, western and northern areas of metropolitan Melbourne and includes a population of almost 1.3 million, comprised of the local government areas (LGAs) of Brimbank, Hobsons Bay, Maribyrnong, Melbourne, Melton, Merri-bek, Moonee Valley and Wyndham.

WPHU aims to protect health, create healthy environments, address health inequities and promote wellbeing for our catchment. We do this by developing an in-depth understanding of health in our region – in collaboration with partner organisations and community – that informs high-quality, evidence-based public health interventions.

The WPHU inaugural [Population Health Catchment Plan](#) outlines a coordinated approach to tackling some of central and western Melbourne's biggest health challenges and contributing to the Victorian Government's vision to "make Victorians the healthiest people in the world". Reducing harms from vaping and tobacco is one of three priority areas identified in the catchment plan. Six of eight local governments in the WPHU catchment have reducing vaping as a priority for their work.

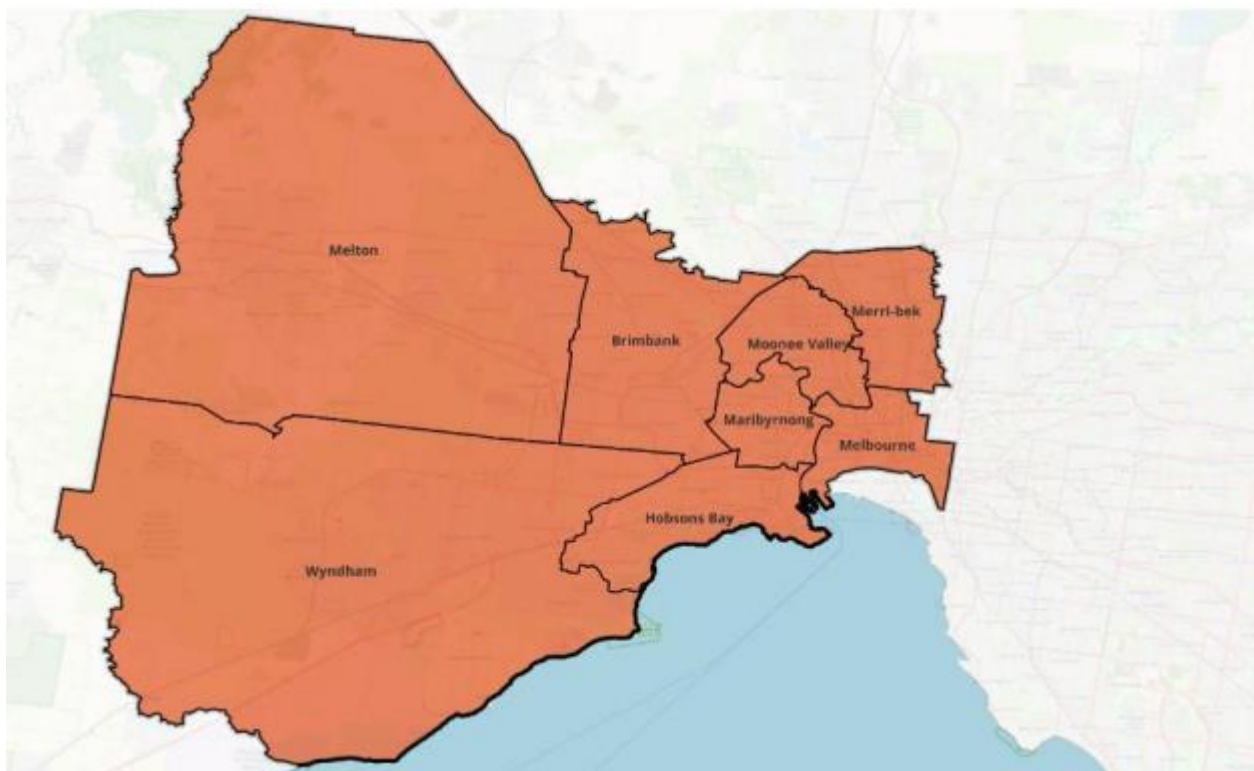


Figure 1: LGAs within WPHU

Background

What we know about e-cigarettes and vaping

Tobacco is a re-emerging population health issue. While smoking rates have substantially reduced in recent decades, growth in e-cigarette use presents an emerging and significant challenge, particularly among adolescents and young people. (1)

Current e-cigarette use has doubled among Victorian adults in the last 3 years (from 154,895 (2019) to 308,827 (2022)). (2) Over half of adults who vape (58%) use nicotine-containing vapes, and of most concern, adolescents who vape are 3 times more likely to later take up smoking cigarettes. (3) This is supported by recent research suggesting that e-cigarette use is the single strongest risk factor for Victorian students aged 12-17 years taking up tobacco smoking. (4) E-cigarettes are highly accessible, with seventy five percent of e-cigarette devices are purchased from 'brick and mortar' stores. (5)

Evidence suggests that one nicotine-containing e-cigarette may contain the equivalent nicotine level of 20 cigarettes.(6) The large majority of e-cigarettes declaring an absence of nicotine have been found to contain nicotine (190 out of 214).(7) (8) Exposure to nicotine in teenage years can impair brain development and pose serious health risks to children and young people.(5)

In addition, 'nicotine-free' e-liquid is not without its dangers, as the aerosol contains potentially cancer-causing chemicals, and chemicals linked to serious lung disease.(9) (10) Vaping can exacerbate asthma and mental health conditions, making it more difficult to concentrate, remember or make decisions.(11) Quitting smoking is associated with improved mental health, quality of life and reduces feelings of depression, stress and anxiety. Not only are vapes bad for health but they are also detrimental to the environment. Every e-cigarette that goes into landfill dumps plastic, poisons, nicotine salts, heavy metals, lead, mercury, and flammable lithium-ion batteries into the environment that can take hundreds of years to degrade. (12)

Through engaging with our community and collecting the 'hidden voices', we have gathered the following insights from people in our catchment:



Figure 2: Quotes from local community engagement regarding vaping

Regulatory landscape

In Australia, the regulation of e-cigarettes is complex and shared by various levels of government and covered by various legislative instruments. At the Federal level, e-cigarettes with nicotine are regulated as medicines under the *Therapeutic Goods Act 1989* (the TG Act).(13)

Currently, people can only access nicotine containing e-cigarettes by obtaining a valid prescription from a medical practitioner. E-cigarette products containing nicotine can only be sold in pharmacies, to a person with a valid prescription.^{1 2} It is illegal for retailers, such as tobacconists, 'vape' shops, convenience stores and other retailers, to sell nicotine containing e-cigarettes.

Non-nicotine e-cigarette products are not captured within the scope of these prescription requirements. Due to this loophole, non-nicotine containing e-cigarettes can be imported into Australia and sold online or in retail stores.

At a state level in Victoria, the *Tobacco Act 1987(14)* generally places the same restrictions on e-cigarettes that are imposed on tobacco products. These restrictions include the use of e-cigarettes where smoking is banned, display of e-cigarettes in retailer outlets, and sale of e-cigarettes to people under 18 years of age.

The only way to identify if an e-cigarette contains nicotine, is to test the product within a laboratory – to do so at scale across Victoria and Australia would require substantial resourcing and capacity. The immense quantity of e-cigarette products within Australia, in addition to a lack of resourcing and capacity to test nicotine in e-cigarettes, means that enforcing legislation at both federal and state level, is currently incredibly difficult. Non-nicotine e-cigarette products (which can be legally sold by retailers to people over 18) currently act as the perfect vehicle for concealing illegal nicotine e-cigarette products.

This presents a significant issue that the current state and federal regulatory framework does not address, and as a result, e-cigarettes that most likely contain nicotine are widely imported and accessible within retail stores and online in Australia.(13) To address these limitations, on June 2 2023, the Federal Health Minister, the Hon. Mark Butler MP, announced draft e-cigarette reforms, including:

- Banning imports of all non-prescription e-cigarette products
- Introducing measures to reduce the administrative burden for medical practitioners who choose to prescribe e-cigarettes
- E-cigarette products only to be available at pharmacies via script
- Pharmaceutical style packaging with reduced flavours, colours and other ingredients and reduced nicotine volumes
- Banning all single use, disposable vapes.

However, as of October 2023 at the time of completing this report, it remains unclear when and how this legislation will be implemented, and most importantly, when we will see an impact at a local level.³

¹ Note: in some circumstances it may also be possible for individuals to import a limited quantity of nicotine e-cigarette products into Australia with a valid prescription (under what is known as the 'Personal Importation Scheme'). See the [TGA website](#) for more details.

² In Victoria, the *Drugs, Poisons and Controlled Substances Act 1981* prohibits the sale of e-cigarette products containing nicotine without a prescription.

³ We would like to acknowledge Quit Victoria for collaborating on the regulatory landscape section.

Project aim

The Out and About Project aimed to develop an understanding of the accessibility of non-prescription e-cigarettes within the WPHU catchment, by mapping the number, type and location of e-cigarette retailers in one LGA.

The project sought to answer the following research questions:

1. How many retailers are selling e-cigarettes in Brimbank?
2. What type of retail stores are selling e-cigarettes in Brimbank?
3. What is the proximity of e-cigarette retail stores in relation to primary and high schools, and sport, leisure and recreation facilities in Brimbank?



Methodology

Sample

This study was conducted within the City of Brimbank (Brimbank), in the state of Victoria, Australia.

Brimbank was selected given that (1) it has the greatest proportion of residents living in suburbs categorised in the bottom 10% of the index of relative socio-economic disadvantage (IRSD) in Australia, corresponding to 40% of its total population, (2) many of Brimbank's residents have low English proficiency (n=26,514, 13.6%), reflecting a culturally and linguistically diverse population, and (3) the proportion of daily smokers are statistically significantly higher in Brimbank (17.2%; CI: 12.7, 22.9) in comparison to Victoria overall (12.0% CI: 11.4, 12.7).

Commercial and shopping areas were obtained from OpenStreetMap, an open-source geographic database. All stores in Brimbank were identified through OpenStreetMap. A convenience sampling method was utilised to collect data to identify if a retailer was selling e-cigarettes.

Data collection

Data collection included (1) store name, (2) type of store, (3) address and (4) coordinates. Data was captured using a Microsoft survey form, following a visual audit of each retailer. If vapes were not visually present, data collectors asked if vapes were available for purchase.

An iterative approach to data collection was employed due to capacity and time constraints. Training sessions were delivered prior to the data collection period to ensure consistency and accuracy in data recording. Data collectors were also provided with a data collection guide for reference during each field trip.

A store was identified as an e-cigarette retailer where:

- a) E-cigarettes were visibly on sale within the store
- b) E-cigarettes were available for purchase when staff were asked

Categorising retailers

Any instance of a retail store that was identified to be selling e-cigarettes within the identified commercial and shopping was categorised into six categories: tobacco and vaping, grocery and convenience, liquor, non-food, café and food, and fuel.

School, sport, recreation and leisure centre locations

Locations of primary, secondary, and combined grade schools were obtained from OpenStreetMap. Primary schools were defined as schools offering grades Prep through 6 only. Secondary schools were defined as schools offering grades 7 and above only. Combined grade schools were defined as schools offering at least one grade within grades Prep through 6 and 7 through 12.

Locations of sport, recreation and leisure facilities were obtained from OpenStreetMap. Sports and leisure facilities were defined as the following settings: libraries, cinemas, playgrounds, amusement arcades, stadiums, sports centres, fitness centres, bowling alleys, skating, roller skating, skateboard.

Data analysis

The straight-line distance from each school or sport, recreation or leisure facility to the nearest store selling e-cigarettes in Brimbank was calculated using the QGIS Distance to Nearest Hub function. The mean, median, minimum, and maximum distance to the nearest e-cigarette store was calculated for each category (primary schools, secondary schools, combined grade schools, sport/leisure facilities) using Microsoft Excel.



Results

Quantitative data

A total of 17 field trips were completed by 12 different WPHU staff from 31 May – 26 June 2023. E-cigarettes were available at 59 retailers in Brimbank LGA. Of the 59 total retailers selling e-cigarettes, 21 were a tobacco and vaping related retailer. E-cigarettes were also accessible at 18 grocery and convenience stores, 8 liquor stores, 7 non-food stores, 3 café and/or food stores, and 2 fuel stores. A further breakdown about the types of retailers included within each category can be found in Appendix 1.

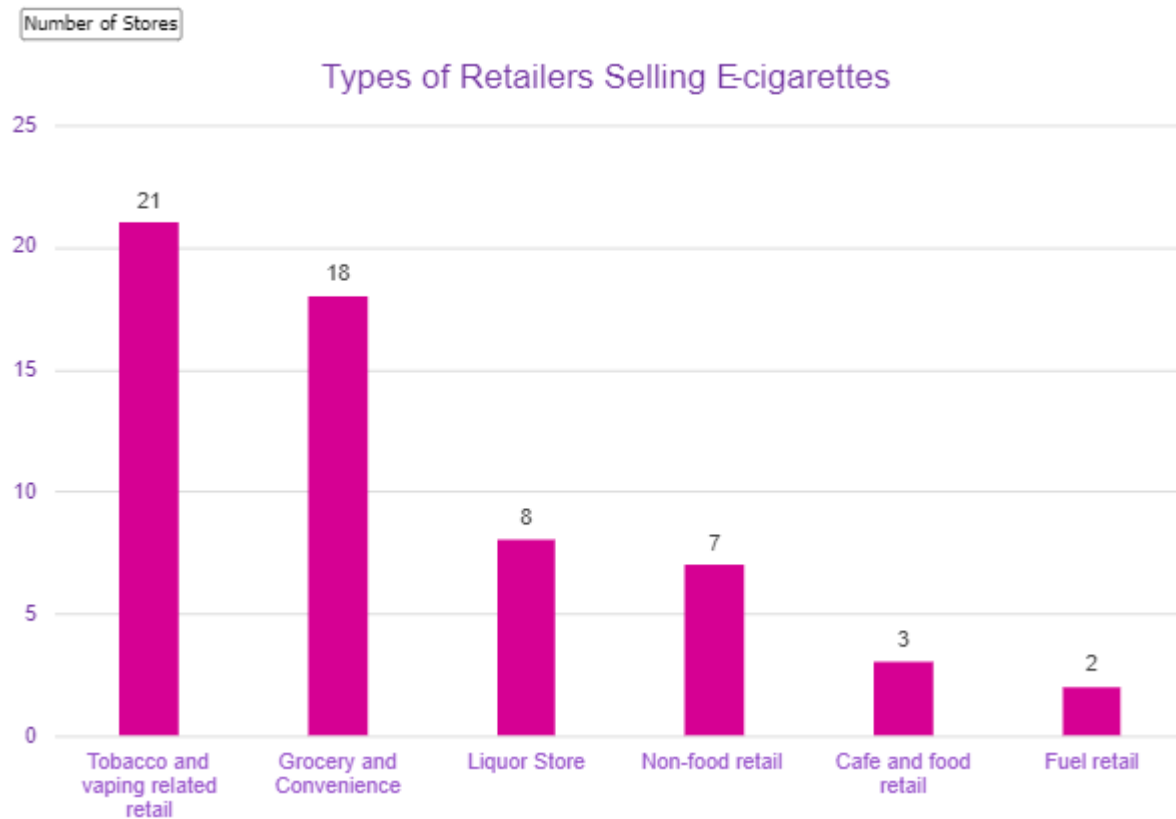


Figure 3: Types of retailers where e-cigarettes are available for purchase in Brimbank.

The main clusters of retailers selling e-cigarettes were in the commercial precincts around Sunshine train station (n=10) and St Albans train station (n=9), Ballarat road in Deer Park (n=6) and Watergardens station (n=4).

There were 45 primary, 7 secondary and 5 combined primary/secondary schools identified in Brimbank through OpenStreetMap. The median distance from a school to the nearest e-cigarette retailer was 741m, and 70 percent (40/57) of schools were located less than 1km from the nearest outlet.

Table 1: Distance of facilities to e-cigarette retailers.

Facility	Shortest Distance from a facility to the nearest e-cigarette retailer (metres)	Longest Distance from a facility to the nearest e-cigarette retailer (metres)	Median Distance to the nearest e-cigarette retailer (metres)
Primary Schools	132	1539	744
Secondary Schools	356	1753	645
Combined Grade Schools	311	1913	811
Sport and Leisure Facilities*	41	3303	813

The closest primary schools to a retailer selling e-cigarettes were Stevensville, Cairnlea Park, Deer Park West and Sunshine (all public, <300m). The closest secondary or combined schools to a retailer selling e-cigarettes were Furlong Park School for Deaf Children (public), Sunshine College North Campus (public), Hester Hornbrook Academy Sunshine Campus (community); all <400m.

There were 184 sport, leisure and recreation facilities identified in Brimbank through OpenStreetMap. The median distance between a sport, recreation and leisure facility and a retailer selling e-cigarettes was 813m. The closest distance between a facility and a retailer selling e-cigarettes was a cinema, which was 41m.

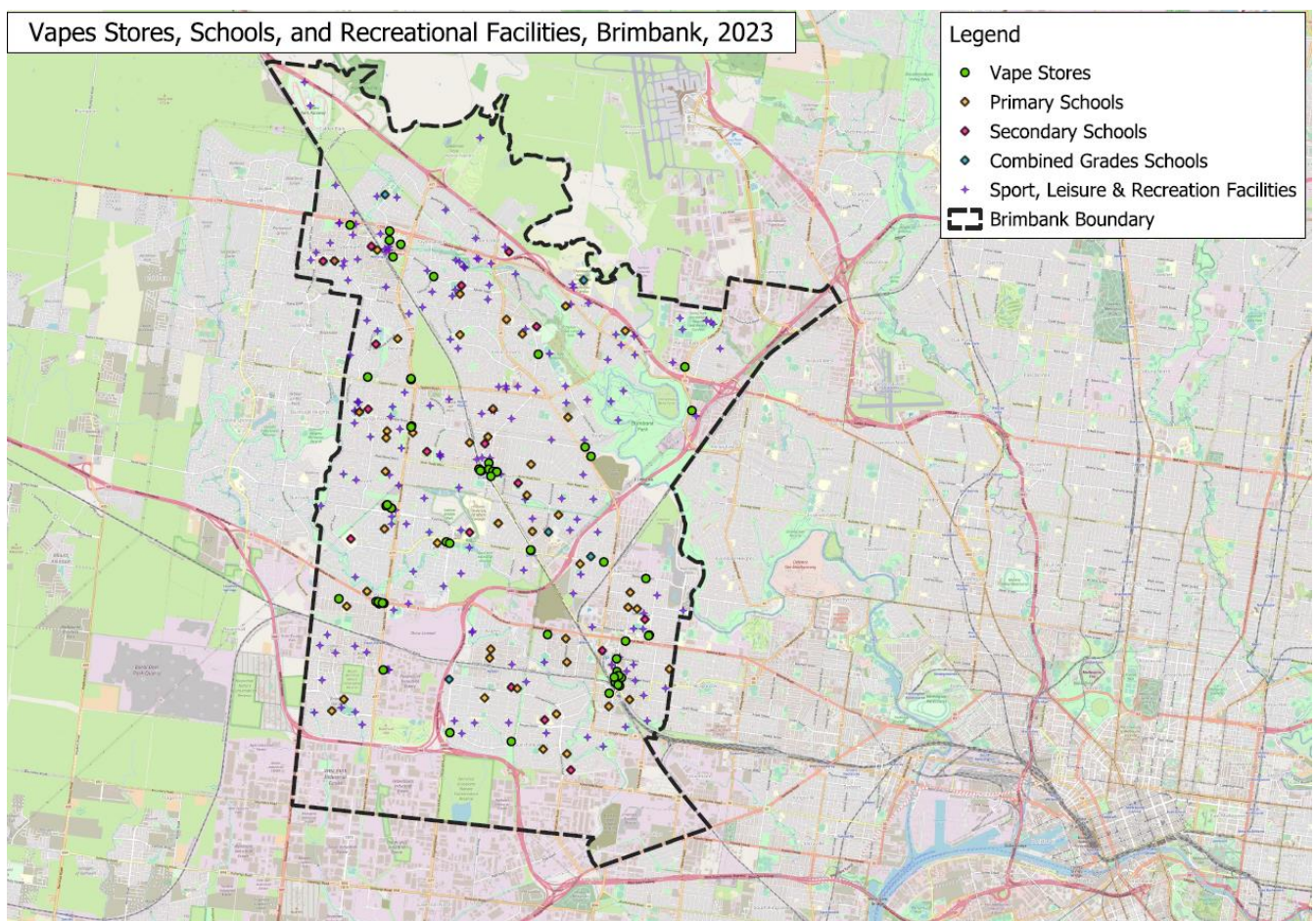


Figure 4: Map showing the location of e-cigarette retailers, schools, and sports and leisure facilities.

Observations

The following observations were noted by WPHU data collectors:

- Prices of e-cigarettes ranged from \$10.00 - \$45.00, with the median price of an e-cigarette \$25.00.
- Regarding displays and signage, data collectors observed that:
 - Some retailers displayed 'vape menus' which listed various flavours
 - There was variability in the manner in which e-cigarettes were displayed with some hidden out of sight and available to purchase on request, while others were on display in glass cabinets.
 - When on display, e-cigarettes were bright and appealing, with enticing flavours on offer like candy and ice-cream.
 - Compliance with legislated signage (health warnings and no sales to minors) was observed as inconsistent between retailers.

Limitations

One limitation of this study is that this project employed a convenience sampling method, which meant that data collectors did not enter every store in Brimbank to assess whether e-cigarettes were sold. As a result, it is possible that the findings may not fully capture the total number of retailers selling e-cigarettes within Brimbank. Furthermore, the locations of schools, sport, leisure and recreation facilities relied on data from OpenStreetMap, an open-source data base that relies on community members contributions, which may introduce variations in data completeness and accuracy.



Conclusion

WPHU aimed to map the accessibility of e-cigarette retailers within one local government area in the WPHU catchment. This project has provided an in-depth assessment of the locations of e-cigarette retailers within Brimbank, and identified e-cigarettes were available to purchase at 59 retail stores. E-cigarettes were available at a range of stores in addition to tobacco stores, including grocery and convenience stores, liquor stores, café and food stores, non-food stores, and gas stations. All these stores excluding tobacco and liquor stores, are accessible by children and young people under 18 years. This project also identified that stores selling e-cigarettes are in close proximity to settings that are frequented by children and young people, such as schools and sport, recreation and leisure facilities. The intelligence gathered from this project highlights the need to restrict accessibility of e-cigarettes around points of interest for children and young people.

To our knowledge, this is the first project to quantify the accessibility of e-cigarette retailers within a LGA within Victoria, and the proximity of these retailers to settings that children and young people frequent. This project has highlighted:

- the importance of quantifying the accessibility of e-cigarettes within the WPHU catchment
- that e-cigarettes are being sold at a range of retailers, further normalising sales and use among children and young people
- that e-cigarette retailers are in close proximity to schools and are easily accessible to children and young people
- the urgent need for recently announced e-cigarette reforms to come into effect.

The findings from this project will be used to inform future advocacy, policy and legislation of e-cigarettes in Victoria, as well as the strategies and initiatives delivered by WPHU and our catchment partners to reduce vaping and tobacco related harm.

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Appendix 1

Category	Type of store	Number of Stores
Cafe and food	Cafe and restaurant	1
	Shisha lounge	1
	Juice Bar	1
Fuel	Fuel station	2
Liquor Store	Liquor Store	8
Non-food	Clothing and piercing studio	1
	Phone accessories and repairs store	1
	Party store	1
	Discount store	1
	Warehouse	1
	Kitchen Wares and gifts	1
	Money transfer	1
Tobacco and vaping related	Tobacconist	17
	Vape store	4
Grocery and Convenience	Convenience store	12
	Grocery store	6
Total		59

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