

A rapid narrative review of the evidence

Products Mimicking Alcohol

Evidence and Innovation: Alcohol and Drug Foundation

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Contents

About the Alcohol and Drug Foundation	3
Author contributions	3
Acknowledgements	3
Acronyms and definitions	4
Summary of findings	6
1. Introduction	8
1.1 Background	8
1.2 Purpose	9
2. Methods	9
2.1 Research question	10
2.2 Eligibility criteria	10
2.3 Search strategy	10
2.4 Screening and selection	10
2.5 Data extraction and evidence synthesis	10
3. Results	11
3.1 Search results and screening	11
3.2 Characteristics of included studies	12
4. Evidence statement (findings)	13
4.1 Adolescent and parent-related outcomes	13
4.2 Adult-related outcomes	16
4.3 System and regulatory issues	21
5. Discussion	22
5.1 Adolescent and parent-related outcomes	22
5.2 Adult outcomes	23
5.3 System and regulatory issues	24
5.4 Implications for policy and future research	24
5.5 Strengths and limitations	24
6. Conclusion and implications	25
Appendices	26
Appendix 1. PICOT and search strings	26
Appendix 2. Summary of included studies	29
References	86

Declarations

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No funding, financial support or other resourcing was received from the alcohol and other drugs industry for any component of the report, rapid review design and delivery, evidence appraisal or interpretation of findings.

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Microsoft 365 Copilot (GPT-5) was used during the preparation of this review to assist with drafting, editing, formatting and improving the clarity of author-generated content. Covidence's AI-assisted features were also used to support review activities, including screening prioritisation and data extraction. All AI-assisted outputs were reviewed, verified and amended by the review team. AI technologies did not independently determine study eligibility, quality assessments, evidence synthesis, findings, interpretations or conclusions. The authors retain full responsibility for the content and integrity of this review.

About the Alcohol and Drug Foundation

The [Alcohol and Drug Foundation \(ADF\)](https://adf.org.au) is Australia's leading organisation committed to inspiring positive change and delivering evidence-based approaches to minimise alcohol and drug harm. It is the best source of up-to-date, credible information on alcohol and other drugs, the latest research, prevention and harm minimisation advice, access to support services and place-based approaches to support community wellbeing.

Author contributions

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Acronyms and definitions

ABAC Scheme	Australia's Alcohol Beverages Advertising Code Scheme, the alcohol industry's self-regulatory framework governing alcohol advertising and marketing.
Additive use	Consuming no- or low-alcohol products alongside alcoholic beverages rather than instead of them.
ADF	Alcohol and Drug Foundation.
AFLABs	Alcohol-Free and Low-Alcohol Beverages.
Alcohol by volume (ABV)	The standard measurement used to state the percentage of pure alcohol in a given volume of a beverage.
Alcohol cue	A stimulus (e.g. branding, packaging, advertising or products) that triggers alcohol-related thoughts, associations, cravings or behavioural responses.
Alcohol normalisation	The process through which alcohol use and alcohol-related behaviours become viewed as common, acceptable or expected within society.
Alcohol Use Disorders Identification Test (AUDIT)	A validated, widely used tool to screen for high-risk drinking behaviours in both clinical and research settings.
Alibi marketing	Using features other than the brand name to promote a product (e.g. colours, font, slogans). ¹
AOD	Alcohol and other drugs.
Brand sharing and extension	Products that use the name, branding or packaging of an existing product.
FSANZ	Food Standards Australia New Zealand, the statutory agency responsible for developing food standards, including beverage labelling requirements.
Gateway effect	The hypothesis that exposure to, or use of, one product or behaviour may increase the likelihood of future use of another related product or behaviour.
Heavy episodic drinking (HED)	Consuming a large quantity of alcohol in a single drinking session. Also known as binge drinking and risky drinking.
High-risk drinking	Patterns of alcohol consumption that significantly increase the risk of harmful consequences for the person's health and wellbeing. Can be assessed using the AUDIT scale.
LAB	Low alcoholic beverages or low-alcoholic beer.
New to world	Standalone no- or low-alcohol products without a corresponding alcoholic parent brand.

NA	Non-alcoholic.
NAB	Non-alcoholic beer.
NABLAB	Non-alcoholic and low-alcohol beer.
NoLo	No- and low-alcohol products.
PICOT	Population/Patient, Intervention, Comparison/Control, Outcome, Time
PMA	Products Mimicking Alcohol.
Precautionary approach	A policy approach that seeks to minimise potential harms when evidence is incomplete or uncertainty exists regarding risks.
Surrogate marketing	Using a different product with the same brand to promote the original product to circumvent restrictions on alcohol marketing. ¹
Substitution	Replacing an alcoholic beverage with a no- or low-alcohol alternative.
Ready-to-drink	Pre-mixed beverages sold packaged and ready for consumption.
ZAP	Zero Alcohol Products.

Summary of findings

Background

The market for products mimicking alcohol (PMAs) has expanded rapidly in Australia and internationally. While these products are increasingly promoted as alcohol harm-reduction tools, concerns have been raised regarding increased acceptability of alcohol use, indirect marketing of alcohol brands, youth exposure and regulatory gaps. This review examined the available evidence on adolescent and adult alcohol use, knowledge, attitudes, behaviours and harms associated with PMAs; parent knowledge, attitudes and behaviours relating to adolescent PMA use; and system and regulatory issues.

Methods

A systematic search of literature published in the last ten years (from 2016) was conducted across four sources: the ADF Library (specialist alcohol and other drugs library), Google Scholar, PubMed Central and Google, supplemented by citation searching and environmental scans. Data were extracted using Covidence (web-based systematic review tool) and findings synthesised narratively.

Findings

Sixty-six studies were eligible for inclusion comprising cross-sectional ($n = 22$), qualitative ($n = 11$), experimental ($n = 10$), repeated cross-sectional ($n = 7$), time-series ($n = 6$), mixed-methods ($n = 6$), policy analysis ($n = 2$), longitudinal/cohort ($n = 1$) and modelling ($n = 1$) designs. The evidence base was recent, with 73% of included studies published between 2024 and 2026.

There was limited evidence relating to adolescents, parents, harms and regulatory issues, with most available evidence focused on adult PMA use and attitudes.

Among adolescents, PMAs were frequently recognised as alcohol-related products, and exposure to PMA branding and advertising was associated with more favourable attitudes towards the associated alcohol brands. Parents generally expressed mixed and often cautious views regarding adolescent PMA use, with common concerns relating to making alcohol use seem more acceptable, gateway effects and exposure to alcohol branding. While available evidence did not demonstrate clear gateway effects, a lack of longitudinal evidence prevents this from being ruled out.

In large population surveys, weekly PMA use among adults was typically around 10-12%. Adult use was generally more common among heavier drinkers and more socioeconomically advantaged groups. Despite evidence of rapid market growth, PMAs generally accounted for less than 5% of alcohol sales or purchases in the jurisdictions studied. Evidence regarding whether PMAs are used as substitutes for alcohol or in addition to alcohol was mixed. PMAs may support alcohol reduction among some adult drinkers through substitution of higher-strength alcohol products. Studies examining attitudes found that adults commonly viewed PMAs positively as tools for moderation, social participation and avoiding intoxication.

Regulatory studies consistently highlighted substantial inconsistencies in definitions, labelling, taxation, marketing and availability, with many PMAs falling outside alcohol-specific regulatory frameworks, despite closely resembling alcohol products.

Conclusion

PMAs present both opportunities and challenges for alcohol harm reduction. Concerns regarding youth exposure, the potential for PMAs to make alcohol use seem more acceptable, brand extension and regulatory gaps remain unresolved, largely because the evidence on these issues is still emerging. At the same time, PMAs may provide benefits for some adults by supporting alcohol reduction and substitution, although evidence of broader population-level benefits remains limited. A cautious and evidence-informed approach to policy and regulation is warranted while the evidence base continues to develop.

Key messages

- PMAs are frequently recognised by adolescents as alcohol-related products, although evidence regarding whether PMAs contribute to later alcohol use remains inconclusive.
- Although PMA uptake is more common among heavier drinkers and more socioeconomically advantaged groups, it remains relatively low.
- Evidence of broader population-level health benefits limited with sustained reductions in alcohol use not well established.
- PMAs may support alcohol reduction for some adults through substitution of alcoholic beverages, particularly among existing drinkers seeking to moderate their consumption.
- Regulatory frameworks have not kept pace with market growth, highlighting the need for clearer definitions, labelling standards, availability and marketing controls and evidence-informed policy responses.

Key stats

- 66 studies were included in the review, with 73% published between 2024 and 2026.
- Weekly PMA use among adults was typically around 10-12% in large population surveys.
- Market research indicates that PMA availability and sales have increased substantially in recent years, although they still account for less than 5% of alcohol sales or purchases in the jurisdictions studied.

1. Introduction

1.1. Background

Products mimicking alcohol (PMAs) are beverages containing either no or low levels of alcohol that are designed to resemble traditional alcohol products in flavour, appearance, branding and/or packaging. PMAs include alcohol-free and low-alcohol beers, wines, ciders, spirits and ready-to-drink (premix) products.² Terminology varies across jurisdictions and research contexts. No- and low-alcohol (NoLo) is the term most commonly used in European research and studies focused on adult consumption and harm reduction, whereas zero alcohol products (ZAPs) is a term more commonly used in Australian research, particularly in relation to adolescents and youth exposure.

Definitions and regulatory thresholds for PMAs vary substantially between jurisdictions. In Australia, products containing less than 0.05% alcohol by volume (ABV) are generally considered alcohol free; consistent with the United Kingdom (UK) and many other countries. By comparison, alcohol-free products are defined as $\leq 0.1\%$ ABV in the Netherlands, while substantially higher thresholds apply in Iceland ($\leq 2.25\%$ ABV) and Finland ($\leq 2.8\%$ ABV).² Researchers have proposed that beverages containing $\leq 0.5\%$ ABV be classified as no-alcohol products and those containing 0.5–1.2% ABV as low-alcohol products.² Given the variation in international definitions, this review uses PMA as the overarching term for products designed to mimic alcohol, and generally retains the terminology used by original study authors when describing alcohol-free and low-alcohol products.

The Australian market for PMAs has expanded considerably in recent years. An Australian audit found that PMA availability in alcohol stores increased by 65% over two years, with a total of 70 unique products available for sale. Growth was largely driven by wine, beer and spirits.³ In licensed venues, low-alcohol beverages are becoming more widely available, with an audit of Gold Coast entertainment precincts finding that more than half of venues offered low-alcohol products, although visibility and promotion remained limited.⁴ Similar growth has been observed internationally. In the UK, PMA product availability has expanded rapidly since the mid-2010s, extending from beer into cider, wine, spirits and ready-to-drink categories.⁵ Although PMA products are estimated to account for only a small proportion of total alcohol sales (industry-reported), purchasing and consumption (consumer-reported) continue to increase.^{6,7}

Alongside increasing availability, concerns have emerged regarding the marketing of PMAs. Products may be marketed as new-to-world products (standalone brands without a corresponding alcoholic equivalent) or brand extensions, whereby a PMA product shares branding with an existing alcohol product. Broadly, this distinction reflects whether the product originates from a dedicated NoLo producer or an established alcohol manufacturer. In Australia, brand extension products have been estimated to take up 59% of the market share of NoLo products sold in supermarkets.³ Meanwhile in Britain, products that share branding with an established alcohol product constitute 84% of the PMA market.⁸ Australian research suggests that brand extension products may function as a vehicle for promoting parent alcohol brands by extending their reach into settings, occasions and consumer groups beyond traditional alcohol consumption contexts.⁹ Studies from Australia and New Zealand have also found that PMAs are increasingly marketed as being appropriate for occasions where alcohol consumption would traditionally be discouraged, including during sport, while driving, during pregnancy and in connection with exercise and recovery activities.¹⁰

¹¹ Marketing analyses have identified frequent use of health-, wellness- and sustainability-oriented messages, including claims relating to fitness, natural ingredients, recovery, hydration and environmental responsibility.^{12,13} Some authors have argued that these strategies create a ‘health halo’ effect, positioning alcohol companies as positively contributing to public health while simultaneously expanding brand reach and normalising alcohol-related consumption cultures.^{13,14}

Regulation of PMAs has struggled to keep pace with market growth. In Australia, beverage labelling is primarily governed by Food Standards Australia New Zealand (FSANZ). Products containing $\geq 0.5\%$ ABV must declare alcohol content, while those containing $>1.15\%$ ABV are subject to additional alcohol-labelling

requirements. Unlike alcoholic beverages, many PMAs fall outside alcohol-specific retail restrictions because of their low or zero alcohol content and are classified as equivalent to soft drinks by the FSANZ Code 2.6.2.¹⁵ As a result, they may be sold in supermarkets, convenience stores and other retail settings in Australia where alcoholic beverages are not typically available, and can generally be purchased by minors.⁹ Advertising placement is largely governed through the Alcohol Beverages Advertising Code (ABAC) Scheme, an industry-administered self-regulatory system that applies to both alcohol products and some zero-alcohol products.¹⁶ Concerns have been raised regarding gaps in coverage, limited enforcement powers and the extent to which existing policies adequately address PMAs and alcohol brand extensions.^{3, 17, 18}

Internationally, regulation varies considerably across jurisdictions, creating inconsistencies in how PMAs are defined, labelled, marketed and sold. Recognising these emerging concerns, the World Health Organization (WHO) has recommended a precautionary approach to the regulation of zero- and low-alcohol products.¹⁸ Recommended measures include restricting advertising that associates PMAs with parent alcohol brands, prohibiting marketing to children and pregnant women, establishing clearer labelling requirements, regulating points of sale and improving public awareness of potential risks, particularly among vulnerable population groups.¹⁸

The public health implications of PMAs remain contested. Supporters argue that these products can contribute to alcohol harm reduction by providing alternatives that allow adults to reduce alcohol consumption while maintaining established social rituals and drinking occasions. This may occur through substitution (using PMAs instead of alcoholic beverages) instead of additive use (using PMAs alongside alcoholic beverages). Critics, however, have raised concerns that PMAs may normalise alcohol-related behaviours, increase exposure to alcohol branding and potentially act as a pathway to future alcohol consumption among young people. Reflecting on these competing perspectives, several position papers have called for a precautionary policy response while the evidence base continues to develop.^{8, 15, 19} Other authors have highlighted the potential role of PMA products as a harm-reduction tool for people drinking at high-risk levels or living with alcohol dependence, while acknowledging that evidence regarding benefits and unintended consequences remains limited.²⁰

Several reviews have previously examined aspects of PMA products, including consumer perceptions, purchasing behaviours, alcohol substitution, labelling and policy considerations.²¹⁻²⁴ However, the evidence base has expanded rapidly in recent years, particularly in relation to youth exposure, parent attitudes and behaviours and potential public health impacts. Given growing policy interest in PMAs in Australia and internationally, and continuing uncertainty regarding both their benefits and risks, an updated review of the available evidence is warranted.

1.2. Purpose

The aim for this review is to provide a contemporary evidence base to inform updates to ADF's program and advocacy activities.

2. Methods

The review aligns with Cochrane's definition of a rapid review – a streamlined form of knowledge synthesis that accelerates the systematic process of reviewing evidence by simplifying or removing specific steps to produce timely, resource efficient evidence for decision makers.²⁵ The PRISMA guidelines for systematic reviews were used to inform the structure of this report.²⁶

2.1. Research question

The research question for the review was developed collaboratively by the authors, using the PICO (Patient, Intervention, Comparison, Outcome) framework, guided by the aims and purpose of the review, and reviewed by external experts.

The main research question for this review was: *“What is the evidence on the impact of products mimicking alcohol on alcohol use, related behaviours, attitudes and harms (including any unintended consequences) in Australia and comparable jurisdictions?”*

2.2. Eligibility criteria

The search was limited to English-language literature published from 2016 onwards and included peer-reviewed publications and grey literature reports including pre-prints; however, grey literature was excluded where a corresponding peer-reviewed publication existed. Study designs considered for inclusion included quantitative and qualitative studies, using methods including randomised controlled trials, mixed-methods, quasi-experimental designs, focus groups, content analyses and economic evaluations. We searched only for studies published within Australia, New Zealand, the United States, Canada and high-income European countries to maintain jurisdictional comparability to Australia.

Reviews, commentaries, editorials, opinion pieces, book chapters, dissertations, conference abstracts, policy documents, position papers, letters and policy submissions were not eligible for inclusion. Studies were also excluded if they were funded by the alcohol industry or if they did not answer the research question for this review. These included studies focused solely on marketing, consumer trends or market growth without examining public health outcomes.

2.3. Search strategy

Search terms and synonyms were developed by the authors and reviewed by external experts and key staff. Key search terms included ‘alcohol’ and ‘zero.’ Strings were tested using several seed articles, revised and finalised by the Librarian, and then applied across the ADF Library (specialist AOD library), Google Scholar and Pub Med Central for peer-reviewed literature, and Google for grey literature. See Appendix 1 for a copy of the Research Question and Search Plan on pages 26–28.

2.4. Screening and selection

Searches were completed in May 2026 by the Librarian. For each search string, the first 600 results returned by the database or search platform were screened against the eligibility criteria. Duplicates were removed and all eligible publications imported into [Covidence](#) (web-based systematic review tool) for abstract and full text review.

This approach aligns with literature searching recommendations, particularly for Google Scholar and Google, as relevant literature is typically found within the first 100 – 300 results.^{20, 21} Searching beyond 600 (of 5,000+ results) yielded diminishing returns, with few additional relevant studies identified and an increasing proportion of duplicates or clearly irrelevant records.

All abstracts were single screened by MS, NB or AB, with 20% of titles and abstracts and full texts dual screened by a second reviewer. In addition, hand searching of references was conducted to identify studies that were missed by the search terms. Any full text papers that were identified as potentially ineligible for inclusion were discussed between reviewers to reach consensus.

2.5. Data extraction and evidence synthesis

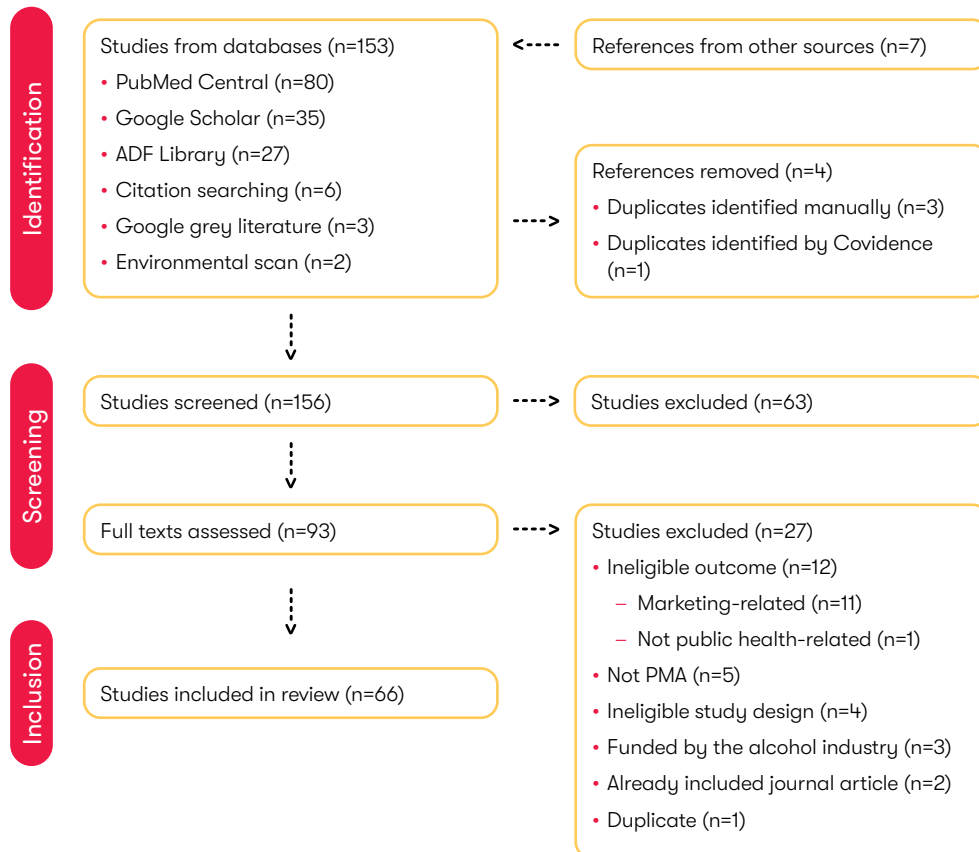
Data extraction fields were developed and tested in Covidence, tailored to the included study designs and the research question. Data extraction was performed by one of three authors (NB, MS and AB), and the extracted data were verified by a different author (NB or MS). The extracted data were imported into an Excel spreadsheet, cleaned and organised into tables by AB and NB. A narrative synthesis of the findings was then conducted by NB.

3. Results

3.1. Search results and screening

Search results were assessed for eligibility and subsequently screened for full text review, as summarised in Figure 1 below.

Figure 1: PRISMA flow diagram



3.2. Characteristics of included studies

Sixty-six studies were considered eligible for inclusion in the review (see Table 1 in Appendix 2 on pages 29-82 for a full summary of results).

3.2.1 Country

Of the 66 eligible studies, most were from the UK (n = 31, 47%) followed by Australia (n = 11, 17%) and the USA (n = 7, 11%), with smaller numbers from Italy (n = 3, 5%) and Spain (n = 3, 5%). The remaining studies were from other countries or multi-country samples, including the Netherlands, Poland, Finland and New Zealand.

3.2.2 Study designs and literature type

The most common study design was cross-sectional surveys (n = 22, 33%), followed by qualitative focus group and/or interview studies (n = 11, 17%), and experimental designs including randomised controlled trials (n = 10, 15%). Studies also included repeated cross-sectional surveys (n = 7, 11%), timeseries/interrupted timeseries analyses (n = 6, 9%) and mixed-methods (n = 6, 9%). Less common designs included policy analyses (n = 2, 3%), a longitudinal/cohort (n = 1, 2%) and a modelling study (n = 1, 2%).

Almost all studies were published in peer-reviewed literature (n = 63, 95%) with two grey literature reports and one pre-print journal article.

Almost three-quarters of peer-reviewed publications (n = 49, 78%), had a public health research focus and were published in AOD or public health journals, with the remaining published in nutrition or food technology journals (n = 13, 21%).

3.2.3 Year published

Most studies were published in recent years, with nearly three quarters appearing between 2024 and 2026 (n = 48, 73%).

3.2.4 Outcomes studied

The most commonly studied outcomes were adult knowledge, attitudes, behaviours and intentions (n = 32, 49%), followed by adult PMA purchasing, sales and consumption (n = 29, 44%).

Less frequently studied outcomes included system or regulatory issues (including policy, labelling and terminology) (n = 6, 9%), adolescent knowledge, attitudes and behaviours (n = 5, 8%) and parent knowledge, attitudes and behaviours (n = 5, 8%). Adolescent use (n = 3, 5%), health provider guidance (n = 1, 2%), and alcohol-related harms (n = 1, 2%) were rarely assessed.

3.2.5 Type of beverage

The included studies primarily focused on PMAs as a broad product category (n = 41, 62%), encompassing products variously described by study authors as NoLo, ZAPs, alcohol-free, or low alcohol. Studies comparing alcohol versus non-alcohol products were also represented (n = 7, 11%). Fewer studies focused exclusively on specific product categories, most commonly beer (n = 15, 23%) and wine (n = 8, 12%), with spirits the focus of only one study (2%).

4. Evidence statement (findings)

4.1. Adolescent and parent-related outcomes

4.1.1 Adolescent use

Three studies (Australia n = 1, UK n = 1, the Netherlands n = 1) examined adolescent PMA use, using mixed-methods^{27, 28} and cross-sectional designs.²⁴

In a 2025 mixed-methods study using a national survey of 679 Australian adolescents aged 15–17 years, 37% reported ever using PMA products.²⁸ Parents were the most common source of supply and consumption most often occurred in the family home, followed by a friend's house and a party at someone's house.

A 2026 mixed-methods study examined how family and social contexts influence perceptions and use of NoLo drinks in Great Britain. Survey data from a large population-based sample of 6,652 young people aged 16–25 years indicated approximately 15% of reported NoLo use in the past month.²⁷ Survey analyses also found that drinking NoLo products before alcohol was not significantly associated with age of first alcohol consumption or amount of alcohol drunk, suggesting no evidence of gateway effects. The study also found no evidence that NoLo use delayed alcohol initiation or reduced consumption among young people. Using NoLo before alcohol may be associated with delayed first intoxication. However, this finding should be interpreted cautiously, as the cross-sectional design does not allow a causal relationship to be established.²⁷

A 2025 cross-sectional study of 4,746 adolescents aged 12–16 years from the nationally representative Dutch Health Behaviour in School-Aged Children study found 46% had consumed PMA at least once, with 8% consuming them weekly.²⁴ NoLo-only drinkers were younger than alcohol-only drinkers. They also had substantially fewer established risk factors for problematic alcohol use compared to those who drank alcohol. For example, their levels of smoking and vaping were similar to those of non-drinkers and they reported fewer behavioural and peer-related difficulties. Adolescents who drank alcohol and NoLo had higher-risk profiles and more closely resembled alcohol-only drinkers. In terms of sex and family composition, this group was demographically similar to non-drinkers. Overall, NoLo-only drinkers appeared to represent a distinct group that more closely resembled non-drinkers than alcohol-only drinkers.²⁴

4.1.2 Adolescent knowledge, attitudes and behavioural intentions

Five studies (Australia n = 3, UK n = 1, Scotland n = 1) examined underage knowledge, attitudes and behaviours, across two mixed-methods,^{27, 28} one experimental,²⁹ one cross-sectional³⁰ and one qualitative study.³¹

4.1.2.1 Australian studies

A recent reaction-time experiment involving 331 adolescents aged 15–17 years investigated whether adolescents automatically categorised zero-alcohol drinks as alcoholic beverages.²⁹ Most participants categorised alcoholic beverages (94%), brand-extension PMAs (91%) and new-to-world PMAs (86%) as alcohol, compared with only 5% for soft drinks. Adolescents responded slightly slower when classifying ZAPs than alcoholic beverages, suggesting that they perceived PMAs as atypical forms of alcohol rather than as non-alcoholic soft drinks. The findings suggest that exposure to PMAs appears to evoke similar cognitive associations as to alcohol products. Although this might be expected given they are intended as alternatives to alcoholic drinks, this supports concerns that the products may undermine efforts to reduce youth exposure to alcohol marketing. Regulatory controls applying to alcohol advertising and availability were recommended to also encompass PMAs.²⁹

Consistent with these findings, a national Australian cross-sectional survey of 382 adolescents aged 15–17 years found that adolescents who reported previous exposure to, and liking of, zero-alcohol advertisements

demonstrated more favourable attitudes towards, and stronger intentions to consume, the corresponding parent alcohol brands.³⁰ However, while advertisement recall and liking were associated with more favourable attitudes towards parent alcohol brands, self-reported exposure to zero-alcohol advertising across different settings (including advertising channels, retail environments and public spaces) was not associated with overall alcohol attitudes or intentions. The authors argued that existing self-regulatory advertising controls are insufficient to protect adolescents from alcohol-like marketing content and highlighted the potential value of stronger mandatory restrictions on both alcohol and zero-alcohol advertising.³⁰

A mixed-methods Australian study involving focus groups (n = 44) and a national survey (n = 679) of 15–17-year-olds similarly found that PMAs were generally appealing to adolescents and were commonly perceived as a positive alternative to alcohol.²⁸ The survey findings indicated that more than half of respondents considered PMAs appealing and attractive, and many viewed them as a means of helping people reduce alcohol consumption, fit in socially and navigate situations where drinking alcohol was undesirable. Adolescents who reported previous alcohol use were more likely to have used PMAs, hold positive perceptions of them, and intend to purchase them in the future. Around half of the survey respondents believed PMAs would be easy to obtain, and among those who had attempted to purchase them, most had been successful at least once, most commonly from supermarkets. Focus group participants expressed concerns regarding possible gateway effects, and when prompted to consider harm-reduction approaches, many suggested measures to restrict young people's visibility of, and access to, PMAs.²⁸

4.1.2.2 UK studies

Qualitative research conducted with 44 young people aged 11–17 years in Scotland explored perceptions of PMA products and alcohol sponsorship in sport.³¹ Participants demonstrated high awareness of alcohol brands and frequently recognised alcohol companies through logos, alibi branding and PMA sponsorship arrangements. Many viewed alibi marketing as a deliberate strategy to circumvent advertising restrictions and maintain brand visibility among young audiences. Although PMA sponsorship was often regarded as more acceptable than alcohol sponsorship because of perceived health benefits, participants generally considered PMA advertising to resemble conventional alcohol advertising.³¹

In contrast, a mixed-methods study from Great Britain suggested that PMA products currently have a more limited role in adolescents' drinking behaviours.²⁷ Drawing on survey data from young people aged 16–25 years and interviews with parent–adolescent dyads, the study found that most adolescents viewed PMA drinks as largely irrelevant to them and primarily intended for adults seeking an alternative to alcohol. Many young people reported that the primary purpose of drinking alcohol was intoxication, making PMA products comparatively unattractive.²⁷

4.1.3 Summary

Although evidence relating to adolescent PMA use remains limited, available studies suggest that use is relatively common among studied populations, with no current evidence that PMA use is associated with later alcohol consumption. Adolescents frequently recognise PMAs as alcohol-related products and that exposure to PMA branding and advertising may reinforce awareness of, and favourable attitudes toward, parent alcohol brands. While some adolescents view PMAs positively and support their use as alcohol alternatives, concerns regarding exposure to alcohol branding, alcohol normalisation and gateway effects were common across studies.

4.1.4 Parent knowledge, attitudes, intentions and behaviours

Five studies (Australia n = 3, UK n = 1, the Netherlands n = 1) examined parent knowledge, attitudes and behaviours, with three cross-sectional,^{24, 32, 33} one mixed-methods,²⁷ and one qualitative³⁴ design.

4.1.4.1 Australian studies

Three Australian studies examined parental attitudes towards adolescent use of PMAs and their provision to young people.

A national cross-sectional survey of 1,197 Australian parents of adolescents aged 12–17 years found that most parents (88%) had not provided PMAs to their children.³² However, a substantial minority either intended to provide PMAs before their child turned 18 years (22%) or were uncertain whether they would do so (20%). Provision and intentions to provide were more common among parents who believed PMAs offered benefits for adolescents or were acceptable for young people to consume. Parental provision was also associated with having previously provided alcoholic beverages to their child; lacking awareness that the Australian Alcohol Guidelines recommend that people under 18 years of age should not drink alcohol; and having a permissive parenting style. No relationship was found between PMA provision and parents' own risky drinking. Although some parents expressed concerns about potential harms, beliefs that PMAs could encourage more regular alcohol consumption were not associated with provision.³²

Qualitative research involving 38 Australian parents similarly identified considerable ambivalence regarding adolescent PMA use.³⁴ Parents generally viewed PMAs as products intended for adults rather than adolescents and expressed mixed opinions regarding their potential role. Five key themes emerged: PMAs were perceived as adult beverages; concerns existed that they could normalise alcohol consumption; they may act as a precursor to alcohol initiation; they could prepare adolescents for future alcohol use in both positive and negative ways; and they were regarded as healthier than alcohol but less healthy than water. Overall, parents tended to adopt a cautious position, with concerns regarding alcohol normalisation and gateway effects frequently raised. The authors suggested that guidance for parents and policy measures limiting youth access and marketing may be beneficial.³⁴

A broader Australian survey of 3,310 adults examined attitudes towards restrictions on PMA promotion and parental supply.³³ Nearly half of respondents (45%) disagreed with parents providing PMAs to teenagers. Opposition to parental provision was somewhat greater among older adults and those from lower socioeconomic backgrounds.³³

4.1.4.2 UK studies

A mixed-methods study from Great Britain explored family attitudes towards adolescent PMA use through population surveys and interviews with parent–adolescent dyads. The survey data indicated that most parents considered adolescent use of PMA products generally acceptable, although acceptability varied according to context. Family settings were viewed as the most appropriate environment for alcohol-free (64%) and low-alcohol (56%) products, whereas social settings with friends were viewed as substantially less acceptable (44% and 28%, respectively). Qualitative interviews indicated that parental acceptance of PMA products was often conditional and context-dependent, with many parents distinguishing supervised family use from unsupervised peer-related consumption. Parents who provided PMA products to their children typically did so in the family home or during family meals and events.²⁷

4.1.4.3 European studies

A Dutch cross-sectional study of 4,746 adolescents aged 12–16 years provided indirect evidence regarding parental influences on youth PMA consumption.²⁴ Adolescents who consumed PMA products, but not alcohol, reported less restrictive alcohol-related parental rules than non-drinkers, suggesting that existing parental rules may not adequately address PMA consumption. The authors noted that while NoLo-only drinkers generally resembled non-drinkers rather than alcohol drinkers, strategies to reduce youth exposure may need to include stronger parental guidance, reduced availability and tighter marketing controls.²⁴

4.1.4.4 Summary

Overall, the evidence suggests that parents hold mixed and often cautious views about adolescent PMA use. While research to date suggests that most parents have not provided these products to adolescents, a sizeable minority consider their use acceptable under certain circumstances, particularly within family

settings. Common concerns included alcohol normalisation, gateway effects and the potential for PMAs to increase young people's familiarity with alcohol-related branding and drinking practices. Collectively, the studies indicate considerable uncertainty among parents regarding the risks and benefits of PMAs, highlighting the need for clearer guidance and further research to inform parental decision-making.

4.2. Adult-related outcomes

4.2.1 Adult PMA use

Twenty-nine studies examined adult use, which spanned household purchasing, retail sales and market data analysis (n = 12) and self-report studies (n = 17). Most studies examined the general adult population, with a minority of studies examining specific populations, including high-risk drinkers (n = 2),^{35, 36} people trying to restrict their alcohol use (n=1),³⁷ people in recovery (n=1),³⁸ mid-life women (n = 1)³⁹ and pregnant women (n = 1).⁴⁰

4.2.1.1 Purchasing and sales studies

Twelve studies (UK n = 7, Spain n = 2, EU and UK n = 1, Finland n = 1) examined household purchasing (consumer-reported), retail sales and market data, using time-series analysis (n = 6), repeated cross-sectional (n = 3), longitudinal (n = 1), cross-sectional (n = 1) and experimental (n = 1) designs. These studies provide insights into patterns of PMA uptake and potential substitution for alcoholic beverages.

Population-based studies consistently found that the availability, sales and purchasing of PMA products have increased over time across Great Britain and Europe, particularly for non-alcoholic beer.^{6, 7, 41} Despite this growth, PMA products continued to represent a relatively small proportion of overall alcohol sales, and purchasing generally accounting for less than 5% of alcohol sales or purchases across Great Britain and Europe.^{6, 7, 41, 42}

Several studies provided evidence that PMA products may partially substitute for higher-strength alcoholic beverages. Household purchasing analyses from Spain and Great Britain found that the introduction or purchase of no-alcohol beer and wine was associated with reductions in purchases of higher-strength versions of the same products.^{43, 44} However, other Great Britain studies reported that the overall contribution of PMA products to reductions in alcohol purchases remained modest because uptake was still limited and more common among a relatively small proportion of consumers.^{42, 45}

Across jurisdictions, PMA purchasing was consistently more common among households that already purchased larger volumes of alcohol and among higher socioeconomic groups.⁴⁶⁻⁴⁸ Studies from Great Britain, Finland and Spain similarly found that uptake was more common among heavier drinkers, more affluent households and higher educational groups, raising concerns that any potential harm-reduction benefits may not be distributed equally across the population.^{7, 46, 48, 49} In addition, purchasing of zero alcohol beer in Great Britain was more common among younger age groups, particularly people aged 25-44 years.⁴⁶

A time-series analysis of on-trade and off-trade sales data from Great Britain found evidence of seasonal variation in both alcohol and PMA product sales.⁴⁵ Alcohol sales were consistently lower in January and highest in the summer and December, while PMA sales and the proportion of PMA servings peaked in January and the summer. Although these patterns suggest temporary substitution towards PMA products during periods such as 'Dry January', there was only weak evidence that January-related reductions in alcohol sales translated into sustained long-term reductions in alcohol purchasing. These findings suggest that PMA products may support short-term alcohol reduction efforts, while evidence of lasting behaviour change or direct causal effects of PMA consumption on alcohol use remains limited.

One randomised field trial from England found that increasing the availability of draught alcohol-free beer in pubs was associated with 4-5% reduction in alcoholic beer sales without substantially affecting revenue.⁵⁰ The findings provide preliminary evidence that increasing the availability of alcohol-free alternatives may encourage substitution away from alcoholic beverages in some settings.

4.2.1.2 Self-report studies

Seventeen studies (UK $n = 8$, USA $n = 3$, Poland $n = 2$, multiple countries $n = 2$, Italy $n = 1$, Netherlands $n = 1$) analysed self-reported PMA use using cross-sectional ($n = 13$), repeated cross-sectional ($n = 3$), and mixed-methods ($n = 1$) designs.

Prevalence

Across studies, regular PMA consumption appeared relatively uncommon, with approximately 10–12% of participants reporting at least weekly use in large population surveys.^{51, 52}

Studies reported higher rates of past-year PMA use than regular use. Estimates ranged from 21% in a UK sample,⁵³ 28% in a USA sample⁵⁴ to 52% among the 2022 Global Drug Survey respondents.⁵⁵ Many users reported consuming PMA products occasionally, rather than as part of their routine drinking behaviour.^{52, 56, 57} For example, a USA study reporting the respondents most frequently used PMA products one to three times a month (26%) or less than once a month (25%) in the past year.³⁸ Similarly, a longitudinal study of young adults in the USA found that 24% reported past-month use.⁵⁸

Among pregnant women in the UK, 71% reported use of PMA products during pregnancy, which was more common among women who drank alcohol at risky levels before pregnancy.⁴⁰

Beer was the most commonly consumed PMA beverage in large surveys,^{52, 56} with smaller studies reporting flavoured non-alcohol beer⁵⁶ and non-alcoholic liquor⁵⁴ as popular product types.

Correlates of use

Recent PMA use was associated with a range of demographic profiles, with findings varying across studies. In the 2022 Global Drug Survey, recent use was associated with older age, full-time employment and alcohol consumption.⁵⁵ A UK nationally representative survey found use was more likely among young people, males and people with higher incomes.⁵³ Similarly, in Poland consumers of non-alcohol beer were mostly aged under 35, and had higher education and income,⁵⁶ while among British women aged 40–65, use was more common among those with higher education and income.³⁹ In a USA study, ever trying PMA beverages was more common among people with higher incomes, food insecurity, moderate- or high-risk alcohol consumption and a history of quit attempts, while lower income, lack of health insurance and being a cisgender woman were associated with lower odds of use.³⁸ Among people in recovery from alcohol use disorder or problematic alcohol use, identifying as gay, queer or another sexual identity, and incorporating drink-counting or rationing strategies into recovery, were associated with higher odds of having tried PMA beverages.³⁸

Several studies found that regular PMA use was more common among heavier drinkers, hazardous drinkers, people actively trying to reduce their alcohol consumption and people who drank alcohol to conform.^{51, 52, 55, 59, 60} In a USA longitudinal study, use was more common among women and was associated with higher odds of abstinence one year later, although it was not significantly associated with heavy drinking, alcohol-related consequences or alcohol risk overall. There was also some indication that users were more likely to report recent quit attempts.⁵⁸ Use of PMA products as part of alcohol-reduction attempts increased over time in Great Britain among those drinking at increasing or higher-risk levels (as measured by the AUDIT-C).³⁶ More specifically, the percentage of hazardous or harmful drinkers self-reporting using NoLo products in their most recent attempt to cut down was 25% in 2020 rising to 38% in 2023. This was forecast to rise to 42% by the end of 2025.⁶

Despite evidence that PMA use was more common among people attempting to reduce their alcohol consumption, these products appear to remain a relatively uncommon moderation strategy. Among UK adults attempting to reduce their drinking, 60% reported reducing the number of drinking occasions, 42% reported reducing the number of drinks consumed, while 23% substituted alcohol with soft drinks. By comparison, use of alcohol-free products was reported by 6% of participants.³⁷

Product-specific convenience samples suggest non-alcoholic beer use may be especially common among particular consumer groups. In Poland, 71% of respondents reported consuming non-alcoholic beer and almost 40% consumed it at least monthly, with use more common among younger adults, those in

relationships, employed individuals and people living in larger households.⁶¹ In Italy, 35% of respondents reported previously trying craft non-alcoholic and low-alcohol beer, with uptake highest among Baby Boomers (40%) and Millennials (37%) and lowest among Generation Z (29%).⁶²

4.2.2 Adult knowledge, attitudes, intentions and behaviours

Thirty-two studies examined adult knowledge, attitudes, intentions and behaviours, spanning self-report studies (n = 24) and experimental designs (n = 8). Most studies examined the general adult population, while some examined specific populations, these being pregnant women (n = 4),^{40, 63-65} high-risk drinkers (n = 3),^{35, 55, 66} women in recovery (n = 1)⁶⁷ and mid-life women (n = 1).³⁹

4.2.2.1 Self-report studies

Twenty-four studies (UK n = 10, Australia n = 4, USA n = 3, Italy n = 2, Poland n = 2, Spain n = 1, multiple countries n = 2) drew on primary or secondary sourced self-report data, comprising cross-sectional (n = 12), qualitative (n = 7), mixed-methods (n = 4) and repeated cross-sectional (n = 1) designs.

Knowledge of products

Knowledge of PMA products and alcohol content was often limited. Studies from Australia and the UK found substantial confusion regarding alcohol-free and low-alcohol classifications, with many participants incorrectly assuming alcohol-free products contained 0.0% alcohol and relatively few consumers accurately identifying product alcohol-strength thresholds.^{39, 66} Despite this, awareness of PMA products was generally high, particularly for beer products, although familiarity, purchasing behaviour and willingness to try varied by beverage type and previous experience with PMA products.^{68, 69}

Reasons for use

Common reported motivations included avoiding intoxication, driving, maintaining health, managing work and family responsibilities, avoiding hangovers and participating in social occasions without consuming alcohol.^{38, 52-54, 70} Qualitative studies suggested that PMA products primarily function by replicating the social and ritualistic aspects of alcohol consumption while reducing or eliminating alcohol exposure.^{35, 70} Participants frequently described using PMA products to maintain social inclusion, participate in alcohol-oriented environments and support moderation goals.^{35, 55}

Perceived benefits

Self-report studies suggested that adults generally held favourable views towards PMA products, particularly for supporting alcohol moderation, health goals and participation in social occasions without intoxication.^{68, 69, 71, 72} Health and wellbeing were consistently identified as key benefits of PMA products. Across studies in Australia, Italy, Spain, Poland and the USA, consumers commonly associated PMA products with health benefits, improved productivity, avoidance of alcohol-related harms and safer participation in activities such as driving and physical activity.^{56, 62, 71} Functional benefits, health consciousness and intentions to reduce alcohol consumption were associated with greater willingness to try or purchase PMA products.⁷¹⁻⁷³ Several studies also identified social benefits, with consumers valuing PMA products for allowing participation in established drinking rituals while reducing or avoiding alcohol consumption.^{65, 74}

Studies of people in recovery suggested that PMA products supported abstinence and social participation.^{38, 67} Similarly, a qualitative study of customers attending a specialist alcohol-free store in England found that PMA products supported social participation, experimentation with alcohol-free lifestyles and engagement with alcohol reduction goals. The venue itself was described as a stigma-free environment for trying products and connecting with others pursuing reduced alcohol use.⁷⁵

Substitution and additive use

Evidence regarding whether PMA products are used as substitutes for alcohol or in addition to alcohol was mixed. Among people drinking at high-risk levels, PMA products were commonly viewed as useful substitutes that supported efforts to cut down alcohol consumption while maintaining established drinking routines and participation in social drinking occasions.^{35, 36, 55, 56} In contrast, a study of Dutch university

students found that PMA beverages were more often consumed in addition to, rather than instead of, alcoholic beverages, suggesting additive rather than substitution patterns within some groups.⁵⁷

Evidence regarding substitution effectiveness was also mixed. Studies found limited evidence that using PMA products was associated with greater success in achieving alcohol-reduction goals compared with other approaches.^{53, 76} For example, one-third of British people attempting to reduce their alcohol consumption reported using PMA products during their most recent attempt, and use was particularly common among regular PMA users, women making serious reduction attempts, and those motivated by future health concerns.⁷⁶ Although most participants reported reducing their alcohol consumption following the attempt, those who used PMAs were no more likely to achieve their alcohol reduction goals than those who did not use PMAs.⁷⁶ In another study, half of 1,010 current and past drinkers of PMA products in the UK reported no change in alcohol consumption as a result of using these products.⁵³ Among those who did report a change, 33% reported their use of PMA products led them to stop drinking alcohol entirely, and 21% reported cutting back to some extent.⁵³

Among USA respondents who screened positive for AUD, 68% reported lower alcohol consumption due to PMA use with only 3% reporting higher consumption.⁵⁴ Among British women aged 40–65, 75% found PMA use helpful in reducing their alcohol use.³⁹ In Poland, 32% reported using non-alcoholic beer to reduce their intake of alcoholic beer, and 23% had fully replaced alcoholic beer.⁶¹ Among young Australian risky drinkers aged 18–24, most respondents believed low-alcohol products (defined as $\leq 1.15\%$ ABV) could assist alcohol moderation, but many also reported limited experience with these products and continued preferences for higher-strength beverages.⁶⁶

Barriers and concerns

Despite generally favourable perceptions, several barriers to the uptake of PMAs were identified. Taste, product quality, price and availability were the most commonly reported barriers across studies.^{35, 55, 68, 77, 78}

Consumers frequently described PMA products as less enjoyable than their alcoholic counterparts and often considered them poor value for money.^{35, 55} For some drinkers, the absence of intoxication reduced product appeal, particularly among those who drink alcohol for its perceived benefits including enhancement motives, enjoyment or social reasons.^{55, 68, 78} Sensory shortcomings were particularly prominent barriers for alcohol-free wine products.⁷⁷

Some studies also highlighted potential unintended consequences. Qualitative research suggested that PMA products may reinforce existing drinking norms by allowing non-drinkers to ‘pass’ as drinkers in social settings and maintain participation in alcohol-oriented cultures without challenging expectations around alcohol use.⁷⁴ Some consumers expressed concerns that PMA products could increase alcohol-related cues or encourage more regular drinking.^{55, 78} Among people in recovery, some participants expressed concerns that PMA products could trigger cravings or relapse because they closely resembled alcoholic drinks.^{38, 67}

Among pregnant women, PMA products were often viewed as facilitating social inclusion and supporting abstinence during pregnancy, although concerns regarding safety, inconsistent professional advice and unclear distinctions between no- and low-alcohol products were common.^{40, 64}

4.2.2.2 Experimental studies

Eight studies (UK $n = 6$, Italy $n = 1$, NZ $n = 1$) employed an experimental design to examine the effects of advertising, retail placement, pricing, labelling and alcohol-strength descriptors on consumer perceptions and behavioural intentions.^{63, 65, 77, 79–84}

Evidence suggested that exposure to PMA advertising increased recall of brands and products; however, evidence that this translated into increased selection of alcoholic beverages was inconclusive. In an experimental online supermarket study, exposure to brand-matched PMA advertisements increased selection of the advertised PMA products but did not significantly increase selection of their alcoholic equivalents.⁷⁹

Evidence regarding retail placement similarly suggested limited impacts on alcohol-related attitudes and intentions. A New Zealand study found that placing PMAs in different supermarket locations did not affect alcohol-related social norms or intentions to purchase or consume alcohol.⁸²

Some studies examined the influence of product labelling, alcohol-strength descriptors and product descriptors.^{77, 80, 81} Lower-strength descriptors were generally interpreted as indicating reduced alcohol content; however, terms such as 'low', 'light' and 'reduced' were often perceived as representing substantially higher alcohol strengths than intended by current regulatory definitions.⁸⁰ Products labelled as lower strength or alcohol-free were consistently rated as less appealing than standard-strength products, with appeal generally declining as indicated alcohol strength decreased.^{80, 81} Experimental findings also suggested that lower-strength products were perceived as targeting non-traditional drinking occasions and consumer groups, including pregnant women, sportspeople and weekday daytime occasions, rather than conventional drinking occasions associated with alcohol consumption.⁸³

A sensory evaluation and survey study from Italy examined consumer perceptions of wines with differing alcohol content (12%, 6% and 0% ABV).⁷⁷ Participants were generally able to distinguish wines according to alcohol content, with most correctly identifying the standard-strength wine and substantial proportions correctly identifying partially dealcoholised and alcohol-free wines. Perceived product quality declined as alcohol content decreased, with alcohol-free wine receiving the lowest ratings. The most commonly reported motivations for consuming alcohol-free wine were safety, health and wellness benefits, and avoiding alcohol, whereas the main barriers were poorer sensory qualities, higher costs and limited availability.⁷⁷

Experimental studies examining specific populations similarly found that alcohol-free products were viewed more favourably than alcoholic alternatives in pregnancy-related scenarios. Alcohol-free beverages were perceived as less harmful and attracted substantially less stigma than both standard- and low-alcohol products, reflecting broader social norms favouring abstinence during pregnancy.^{63, 65}

Finally, one behavioural economic experiment found that non-alcoholic beer functioned as a substitute for alcoholic beer when sold at substantially lower prices, whereas substitution effects were weaker when price differences between products were reduced.⁸⁴

Overall, experimental studies suggest that product presentation, labelling, pricing and branding can influence perceptions and product selection. However, most studies examined intermediate outcomes like attitudes and intentions rather than actual drinking behaviour, meaning evidence of direct influence on alcohol consumption behaviours is limited and indirect.

4.2.3 Alcohol-related harms and other outcomes

A European modelling study examined the potential impact of reducing alcohol strength across six countries (France, Germany, Italy, Poland, Spain and the UK).⁸⁵ The study estimated that between 5% and 10% of alcohol-attributable deaths could have been prevented through reductions in alcoholic strength. However, the introduction of beer and wine products containing less than 0.5% ABV in the UK and Spain resulted in only small substitution effects, with uptake remaining too low to generate substantial population-level health benefits. The largest estimated impact was observed among men in the UK, where increased consumption of low- and no-alcohol alternatives was associated with approximately 16 alcohol-attributable deaths averted annually.⁸⁵

A USA qualitative study analysed patient questions and physician responses posted on the HealthTap digital health platform to examine how health providers advise patients about non-alcoholic beverages.⁸⁶ Patient concerns most commonly related to liver disease, psychotropic medication use, and consumption during pregnancy and breastfeeding. Provider advice varied substantially, ranging from recommending complete avoidance to moderate use or expressing little concern, reflecting uncertainty in the evidence base. Key concerns raised by clinicians included potential liver-related risks, interactions with medications, cue-reactivity and relapse risk among people with alcohol-related problems, and possible alcohol exposure during pregnancy and breastfeeding.⁸⁶

4.3. System and regulatory issues

Six studies (Australia n = 2, USA n = 1, UK n = 1, Europe n = 1, multiple countries including Australia n = 1) examined system and regulatory issues. Study designs included policy analysis,^{17, 87} economic modelling,⁸⁵ mixed-methods,⁵³ cross-sectional¹³³ and qualitative.⁸⁸ These studies focused on the regulation of product definitions, marketing, labelling, taxation, sales restrictions and public attitudes towards policy responses.

4.3.1 Australian studies

Three Australian studies examined regulatory frameworks, marketing policies and public support for restrictions on PMAs.

A policy analysis of alcohol marketing regulations in Western Australia found that PMAs frequently fall outside existing alcohol policy frameworks due to inconsistent definitions and regulatory thresholds.¹⁷ Products containing less than 0.5% ABV were often excluded from alcohol-specific controls, creating uncertainty regarding how advertising, online sales, sponsorship, labelling and age-based restrictions apply. The analysis also identified limited regulation of product design and packaging, with no standards governing the extent to which PMAs may mimic alcoholic beverages. In addition, products containing less than 1.15% ABV were exempt from pregnancy warning requirements and alcohol taxation measures.¹⁷

A national cross-sectional survey of 3,310 Australian adults examined support for restrictions on PMA advertising and parental supply.³³ Support for advertising restrictions was mixed, with 47% supporting bans on PMA advertising near schools, 33% supporting removal of PMA advertising from professional sport, and 31% supporting bans on PMA advertising on public transport. Support for restrictions was generally lower than that reported for comparable alcohol-control policies. Older age and lower socioeconomic status were associated with greater support for restrictions. The authors suggested that relatively low support may reflect limited public awareness of the role PMAs can play in promoting alcohol brands and highlighted the need for greater public education.³³

A multinational policy analysis that included Australia found that Australian regulations apply different alcohol thresholds across policy domains, with products below 1.15% ABV frequently exempt from alcohol-specific controls relating to taxation, licensing and marketing.⁸⁷

4.3.2 UK and European studies

Three studies examined regulatory approaches to PMA products across different jurisdictions.

A comparative policy analysis across eight countries found considerable international variation in the regulatory thresholds used to define alcohol-free and low-alcohol products.⁸⁷ Regulatory thresholds were often inconsistent within and between jurisdictions, contributing to variation in labelling, taxation, licensing and marketing requirements. Across many jurisdictions, alcohol-free products were exempt from regulations applying to standard alcoholic beverages, including age restrictions, labelling requirements and marketing controls.⁸⁷

A mixed-methods UK study examining the role of PMA products in alcohol harm reduction similarly found that policy development had lagged behind market growth.⁵³ The review identified limited regulatory oversight of PMA marketing and advertising, reliance on non-binding guidance for labelling and product descriptors, and concerns regarding the use of alcohol-like branding and potential alibi marketing.⁵³

A European modelling study examined the public health impact of reducing alcohol strength across six countries (France, Germany, Italy, Poland, Spain and the UK).⁸⁵ The study found that reducing the alcoholic strength of beverages, including through greater availability of low-strength products, has substantial potential to reduce alcohol-related mortality. However, achieving meaningful population-level effects would likely require complementary policy measures, particularly taxation reforms that incentivise lower-strength products. The authors argued that governments should explore taxation and pricing strategies that encourage reformulation and increased uptake of lower-strength beverages.⁸⁵

4.3.3 North American studies

One USA study examined labelling practices among 47 non-alcoholic beer producers.⁸⁸ All products reported alcohol content using both alcohol-by-volume information and product descriptors. However, substantial variability existed in the inclusion of nutritional information, health warnings and age-related messages. Fewer than one-quarter of labels contained health warnings, and only five products included an age-restriction message. Products produced exclusively by non-alcoholic beverage companies were more likely to resemble soft-drink labelling, whereas products from dual alcohol and non-alcohol producers were somewhat more likely to include warnings.⁸⁸

5. Discussion

This review aimed to comprehensively synthesise the available evidence on the public health implications of PMAs. Across the last decade, the evidence base has expanded rapidly, particularly since 2023, reflecting growing commercial availability, policy interest and public health debate. The 66 included studies suggest that PMAs occupy a complex and contested position within alcohol harm reduction. The evidence suggests that PMAs should not be conceptualised solely as either harm-reduction tools or public health risks. Rather, they occupy a dual role, creating potential benefits for some drinkers while simultaneously raising concerns regarding alcohol normalisation and branding exposure for young people.

The findings of this review generally support and extend earlier reviews. A 2021 review concluded that evidence was insufficient to inform policy and noted that only a small number of studies had examined purchasing or consumption outcomes.²¹ Since then, household purchasing studies from Great Britain and Spain have strengthened support for a substitution effect away from higher-strength alcohol products, although more robust causal evidence is still needed. However, questions relating to optimal labelling approaches, retail placement, marketing regulation and pricing interventions remain unresolved. Consistent with a 2024 review,²³ consumer behaviour research remains in its infancy relative to market growth. It also remains heavily concentrated within the UK and Europe, focuses predominantly on beer products, and relies largely on cross-sectional designs. Evidence from Australia, North America and other comparable jurisdictions remains relatively limited. Finally, this review advances earlier syntheses by incorporating emerging evidence regarding adolescents, parental attitudes and regulatory concerns. These issues were largely absent from earlier reviews but now represent important areas of contemporary public health interest.

5.1. Adolescent and parent-related outcomes

The evidence relating to adolescents and parents was relatively limited, comprising only eight studies, but has expanded considerably in recent years, particularly within Australia. Unlike earlier reviews, which identified very little youth-focused research, this review identified evidence examining adolescent use, cognitive responses, attitudes towards PMAs, advertising exposure and parental attitudes and behaviours.

The available evidence suggests that adolescents generally perceive PMAs as alcohol-related products and that these products may function as alcohol cues or indirect forms of alcohol marketing.²⁸⁻³⁰ Together, these findings support concerns about alcohol normalisation and continued brand exposure among young people. Evidence for direct behavioural impacts on adolescent alcohol use remains inconclusive.^{24, 27} Dutch adolescents who consumed only NoLo products appeared more similar to non-drinkers than alcohol drinkers, while a large British study found little evidence that PMA products either increased or reduced youth alcohol consumption.^{24, 27} Importantly, both studies were cross-sectional and unable to establish whether PMA use contributes to later alcohol initiation. Parental uncertainty regarding PMAs highlights the absence of clear public health guidance and reflects broader uncertainty within the evidence base regarding potential benefits and harms for young people.^{27, 32, 34}

These findings broadly align with a 2025 review that concluded that evidence regarding adolescent PMA consumption remains too limited to draw firm conclusions regarding either harms or benefits.²⁴ This review also found no convincing evidence of gateway effects, but also identified insufficient evidence to rule them out. This review extends those conclusions by incorporating several recent Australian studies, including experimental research that provides preliminary evidence that PMAs may operate as alcohol cues and indirect marketing vehicles. Together, the findings support the recommendation that a precautionary approach to youth exposure to PMA marketing may be warranted until stronger longitudinal evidence becomes available.²⁴

5.2. Adult outcomes

Adult outcomes represented the largest and most developed area of research, with over half of included studies examining purchasing, consumption, perceptions and behavioural responses to PMAs.

Population-level evidence suggests that PMAs are increasingly being used as substitutes for higher-strength alcoholic beverages, indicating a potential role for harm reduction among some drinkers.^{43, 46, 49} However, evidence remains mixed regarding the extent to which PMAs are used as substitutes for alcohol versus being consumed alongside alcohol. It also remains unclear whether substitution translates into sustained reduction in overall alcohol consumption or simply reflects pre-existing efforts to reduce drinking. Current uptake also remains modest and is highest among heavier drinkers and more socioeconomically advantaged groups, limiting the likelihood of substantial population-level benefits and raising concerns about equity in access to any potential gains.^{36, 46-48, 51, 59} Adults appear willing to incorporate PMAs into drinking occasions when they meet existing social and functional needs.^{53, 56, 62, 70} However, persistent concerns about taste, value and product quality suggest that market growth alone may not be sufficient to achieve widespread substitution away from alcohol.^{35, 55, 64, 69}

Another recurring finding was limited consumer understanding of NoLo definitions and alcohol content. Confusion regarding the distinction between alcohol-free and low-alcohol products was evident across multiple populations, including general consumers, pregnant women and people in recovery. This suggests that inconsistent terminology and labelling may undermine consumers' ability to make informed decisions regarding PMA use.^{39, 40, 67, 78}

Important uncertainties remain regarding how PMAs are incorporated into drinking practices and which population groups are most likely to benefit or experience unintended harms. While many consumers reported using PMAs to reduce drinking, some studies identified additive consumption patterns, particularly among younger adults and university students. Similarly, qualitative studies of people in recovery identified both benefits and risks, with some participants viewing PMAs as useful tools for maintaining abstinence while others considered them potential triggers for relapse.^{39, 55} Previous reviews have also highlighted that PMAs (specifically beer), may not always function as substitutes for alcohol and may, in some circumstances, increase cravings or reinforce alcohol-related cues among people with heavy drinking or alcohol use disorders.²²

Evidence relating to direct alcohol-related harms remains sparse. The limited available evidence suggests PMAs may have a role in harm reduction for some higher-risk drinkers, but their population-level impact remains uncertain. Evidence is also insufficient to determine which groups are most likely to benefit or be harmed, with ongoing uncertainty regarding their use among people with alcohol dependence, those in recovery, pregnant women and other clinical populations.^{85, 86} The findings support previous reviews that identified potential benefits for some higher-risk drinkers, while recommending caution among people with alcohol dependence or established recovery pathways.²⁰

5.3. System and regulatory issues

The consistency of findings across jurisdictions suggests that current regulatory systems have not evolved in step with the rapid growth of PMA markets.^{53, 87} This creates uncertainty regarding how these products should be classified and regulated, particularly when they closely resemble alcoholic beverages, while remaining exempt from many alcohol-specific controls. Inconsistent definitions and labelling requirements may also contribute to consumer confusion regarding product alcohol content and suitability for particular populations.⁸⁷ Given PMAs fall outside existing advertising restrictions in Australia, this may allow alcohol branding to extend into settings and channels where conventional alcohol promotion is restricted.¹⁷ Collectively, the findings suggest that regulatory frameworks designed for either conventional alcoholic beverages or non-alcohol products may be poorly equipped to address the unique challenges presented by PMAs.

5.4. Implications for policy and future research

The findings of this review support a cautious and evidence-informed approach to PMAs.

While PMAs may facilitate substitution of alcoholic beverages for some adults, evidence that this results in sustained reductions in alcohol consumption or broader population-level benefits remains limited. In addition, concerns regarding youth exposure, alcohol normalisation, brand extension and regulatory gaps remain unresolved. Consistent with previous recommendations, there is a need for clearer definitions, labelling standards and regulatory frameworks for PMAs, together with a precautionary approach to marketing and promotion, particularly where products share branding with alcohol products or may increase youth exposure to alcohol-related cues.^{8, 21} However, there remains limited evidence to guide decisions regarding advertising restrictions, age-based access, retail placement, pricing policies and the broader role of PMAs within alcohol harm-reduction strategies.^{8, 9, 21}

Other important evidence gaps also remain. Despite rapid growth in the literature, research continues to be concentrated in the UK and Europe, relies heavily on cross-sectional designs, and focuses primarily on beer products. More longitudinal, experimental and policy-relevant research is needed to determine whether PMAs contribute to sustained reductions in alcohol consumption and/or influence alcohol initiation among young people, and identify which population groups are most likely to benefit or be harmed.^{8, 21} In the Australian context, research is particularly needed to understand who is purchasing and consuming PMAs, where these products are being accessed and how they influence alcohol consumption patterns.¹⁵ Additional research is also required among people drinking at high-risk levels, those living with alcohol use disorders and alcohol-related liver disease, and individuals in recovery, to better understand when PMAs may support alcohol reduction or abstinence and when they may increase relapse risk.²⁰

5.5. Strengths and limitations

This review has several notable strengths.

First, it employs a comprehensive and systematic search strategy, ensuring wide coverage of relevant literature, including grey literature that is typically excluded from systematic reviews. Second, the review searched the previous 10 years to capture the full scope of available evidence. Third, by incorporating international studies across New Zealand, North America and high-income European countries, the review was able to draw on evidence from a variety of jurisdictions comparable to Australia. Fourth, the review considered a broad range of outcome domains, enhancing its policy and practice relevance.

As with any rapid narrative review, some methodological limitations should be noted.

Although this review used multiple search sources and supplementary reference list searching, relevant studies may have been missed. Resource constraints meant that searches of Google Scholar, PubMed Central, the ADF Library and Google were limited to screening the first 600 results returned by each search strategy, rather than all potentially eligible records. Resource constraints also necessitated adding limits to jurisdictions and language, meaning some evidence (including evidence from Asia) was not included.

Generalisability may be limited as some studies were conducted in specific geographic and policy contexts that may not be directly applicable to other settings. Finally, a formal quality appraisal of the evidence was not undertaken. Accordingly, descriptions of the evidence reflect the consistency, volume and nature of the available studies rather than a formal assessment of evidence quality or certainty. However, study limitations were extracted and systematically reported in the appendices, and studies with identified conflicts of interest involving the alcohol industry were excluded.

6. Conclusion and implications

This rapid narrative review synthesised evidence from 66 studies exploring the public health implications of PMA for adolescents, parents, adults and the regulatory systems that guide current PMA availability. In summary, the evidence suggests that PMAs may provide benefits for some adult drinkers through facilitating alcohol reduction and substitution, but evidence of broader population-level benefits remains limited. At the same time, concerns regarding youth exposure, alcohol normalisation, brand extension and regulatory gaps remain unresolved. Taken together, the findings support a cautious and evidence-informed approach that recognises both the potential benefits and potential unintended consequences of PMAs.

Appendices

Appendix 1. PICOT and search strings

	Key concept	Synonyms	Subject headings <i>Optional</i>
Population/Problem <i>Who is your target group? What is their issue? How would you describe them (location, age, sex, demographic, sub-pop/ cohort)?</i>	Adults Parents Young adults Adolescents Children Australian and comparable jurisdictions	Australia / USA / Canada / New Zealand / high-income European countries / Austria / Belgium / Czechia / Denmark / Estonia / Finland / France / Germany / Greece / Hungary / Iceland / Ireland/ Italy / Latvia / Lithuania / Luxembourg / Netherlands / Norway Poland / Portugal / Slovak Republic / Slovenia / Spain / Sweden / Switzerland / United Kingdom	
Intervention/Program Approach <i>What type of intervention, program, policy, prevention measure e.g. lifestyle change or approach is being considered?</i>	Products Mimicking Alcohol / Zero Alcohol Products (ZAP) / No and low alcohol products (NoLo)	Alcohol / liquor / wine / spirit / beer / cider / premix / RTDs AND Zero / low OR NoLo / no and low alcohol ZAP / zero alcohol product	Alcohol Drinking Underage Drinking
Comparison	N/A		

Outcome What are you hoping to achieve as a result of the intervention, program or approach? What do you want the short, med-term impact or long-term outcome to be? What are the anticipated or expected outcomes as a result of exposure to environmental factors, risk or protective factors?	Exposure and conditioning / attitudes towards alcohol brands Alcohol consumption and purchasing patterns (individual and household level) Alcohol-related harms Regulatory challenges and issues	Consumption / use / drinking / binge / Intoxication / Heavy episodic drinking / harmful / hazardous / abuse / misuse / excess / problem / addiction / dependence / alcohol use disorder / relapse / withdrawal / mean standard drinks / purchasing / sales OR Alcohol-related harm / injury / assault / violence / family violence / domestic violence / hospitalisation / emergency department presentation / crime / traffic crash / traffic accident / road accidents / fatalities / death /disease / mortality / morbidity/ ambulance / pregnancy / pre-natal exposure / post-natal exposure OR consequence / unintended consequences/	Alcohol Drinking Underage Drinking
Timeframe	N/A		

Seed Articles and Search Terms / Keywords

Article	Search Terms / Keywords
Caballeria E, Pons-Cabrera MT, Balcells-Oliveró M, Braddick F, Gordon R, Gual A, Matrai S, López-Pelayo H. “Doctor, can I drink an alcohol-free beer?” Low-alcohol and alcohol-free drinks in people with heavy drinking or alcohol use disorders: systematic review of the literature. <i>Nutrients</i> . 2022 Sep 22;14(19):3925. https://doi.org/10.3390/nu14193925 https://adf.on.worldcat.org/oclc/9644243071 PMID: 36235578	low alcohol; no alcohol; NoLo; alcohol free; alcohol use disorder; heavy drinking; ethanol reduction
Clarke N, Blackwell AK, Ferrar J, De-Loyde K, Pilling MA, Munafò MR, Marteau TM, Hollands GJ. Impact on alcohol selection and online purchasing of changing the proportion of available non-alcoholic versus alcoholic drinks: A randomised controlled trial. <i>PLoS Medicine</i> . 2023 Mar 30;20(3):e1004193. https://doi.org/10.1101/2022.03.04.22271898 https://adf.on.worldcat.org/oclc/9910205624 PMID: 36996190	non-alcoholic alcohol consumption impact

Anderson P, Kokole D, Llopis EJ. Production, Consumption, and Potential Public Health Impact of Low- and No-Alcohol Products: Results of a Scoping Review. <i>Nutrients</i> [Internet]. 2021;13(9). Available from: https://doi.org/10.3390/nu13093153 https://adf.on.worldcat.org/oclc/9270896787 PMID: 34579030	no-alcohol products; low-alcohol products; production; consumption; health impact
Bartram A, Harrison NJ, Norris CA, Kim S, Pettigrew S, Room R, Miller C, Olver I, Jenkinson R, Bowshall M, Bowden JA. Which parents provide zero-alcohol beverages to adolescents? A survey of Australian parents' practices and intentions. <i>Preventive Medicine</i> . 2024 Feb 1;179:107840. https://doi.org/10.1016/j.ypmed.2023.107840 PMID: 38151205	Zero-alcohol beverages NoLo Parents Adolescent health Alcohol Australia
Booth L, Keric D, Bowden J, Bartram A, Sengupta A, Pettigrew S. Zero alcohol products and adolescents: A tool for harm reduction or a trojan horse?. <i>Appetite</i> . 2025 Jan 1;205:107582. https://doi.org/10.1016/j.appet.2024.107582 PMID: 38942148	Zero alcohol No-alcohol Alcohol-free Adolescents Minors Underage

Search strings

PubMed

[\[\("Alcohol Drinking"\[Mesh\] OR \[alcohol\[tiab\] AND \(use\[tiab\] OR consumption\[tiab\]\)\] AND \["alcohol free"\[tiab\] OR "no-alcohol"\[tiab\] OR "low alcohol"\[tiab\] OR "zero alcohol"\[tiab\] OR NoLo\[tiab\] OR ZAP\[tiab\]\]\) AND \["Behavior"\[Mesh\] OR behaviour\[tiab\] OR behavior\[tiab\] OR "Attitude"\[Mesh\] OR attitude\[tiab\]\]\)\]](#)

2016 – 2026

666 results; checked 666 results; 80 articles sent to Endnote; 80 articles and abstracts sent to Covidence

ADF Library

[\[ti:\(alcohol* AND \(free OR no OR non OR low OR zero OR NoLo\)\)\] AND ab:\(consumption OR use OR behavi* OR attitude*\)\]](#)

2016 – 2026

2,100 results; 600 checked results; 60 saved; 60 sent to Endnote; 36 duplicates; 24 articles and abstracts sent to Covidence

Google Scholar

[alcohol use NoLo OR "alcohol free" OR "no alcohol" OR "low alcohol" OR ZAP "zero alcohol"](#)

2016 – 2026

609 results; checked 300 results; 120 saved; 95 sent to Endnote; 49 duplicates; 35 articles and abstracts sent to Covidence

Google

[alcohol use NoLo OR "alcohol free" -zone OR "no-alcohol" OR "low alcohol" OR "zero alcohol" site:gov.au](#)

2016 – 2026

5,240 results; checked 95 results; 3 saved; 3 sent to Endnote; 0 duplicates; 3 articles and abstracts sent to Covidence

Appendix 2. Summary of included studies

Table 1: Summary of included studies (n =66)

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
ADOLESCENT-AND PARENT-RELATED OUTCOMES							
Adolescent consumption (n = 3)							
Booth et al.²⁶ 2025 Australia	To examine adolescents' perceptions and use of ZAPs and their support for a range of potential regulatory actions	Mixed-methods research	Australian adolescents aged 15-17 years: focus groups (n = 44) and national online survey (n = 679)	ZAPs	• 37% had tried ZAPs • Parents were most common source of supply • Consumption most often occurred in the family home, followed by a friend's house and a party at someone's house	• ZAPs may expose minors to alcohol-related cues • Exposure may increase risk of underage alcohol use • Regulation should protect young people from ZAP exposure • Adults should still be able to use ZAPs as alcohol substitutes	• Web-panel sample may limit representativeness • Australian findings may not generalise to other settings • Cross-sectional design limits causal conclusions • Some survey items were newly developed and not previously tested
Oldham et al.²⁷ 2026 Great Britain	To examine how NoLo drinks are perceived, used, and shaped within family and social contexts in Great Britain	Mixed-methods research	Quant: Alcohol Toolkit Study: 5,890 adults (18+) on attitudes to adolescent NoLo use; 3,652 young people (16–25) on NoLo use; 604 on sequencing of NoLo/alcohol use Qual: Interviews with 14 parent–adolescent dyads	NoLo products	• Around 15% of 16–25-year-olds used NoLo in past month • Drinking NoLo before alcohol was not significantly associated with age of first alcohol consumption or how much alcohol drunk • No evidence that NoLo use reduced alcohol initiation or consumption among young people • Using NoLo before alcohol may be associated with delayed first intoxication, though findings were uncertain	• Current evidence suggests limited positive or negative influence on youth drinking • Ongoing monitoring is needed as the market grows • Longitudinal studies are needed to test gateway effects	• Recall bias in past drinking reports • Cross-sectional design limits causal conclusions • Parent-recruited adolescents may introduce selection/reporting bias

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Peeters et al. ²⁴ 2025 Netherlands	To identify sociodemographic characteristics of adolescent NoLo drinkers (12-16 years) and compare these characteristics with adolescent alcohol- and non-drinkers	Cross sectional study	4,746 Dutch adolescents aged 12-16 (2021 wave of the Dutch Health Behavior in School-Aged Children study)	NoLo products; Alcohol vs non-alcohol products	• 46% had consumed NoLo at least once, with 7.8% weekly use • NoLo-only drinkers are demographically similar to non-drinkers (e.g. sex, family composition), though they are less likely to have a migration background • NoLo-only drinkers are younger than alcohol drinkers, which may reflect experimentation, peer influence, or status-seeking, with NoLo beverages offering a 'mature' image without alcohol's effects • NoLo-only drinkers show similar levels of smoking and vaping as non-drinkers, fewer peer problems, but slightly higher hyperactivity • Alcohol-only and mixed (NoLo + alcohol) drinkers are older and more likely to attend vocational education than non-drinkers • Mixed drinkers exhibit higher risk profiles, while NoLo-only drinkers have fewer known risk factors for problematic alcohol use and overall resemble non-drinkers more than alcohol drinkers	• NoLo-only adolescent drinkers appear to be a distinct group • They mostly resemble non-drinkers, with fewer risk factors linked to early or problematic alcohol use • Longitudinal research is needed to test whether early NoLo use leads to later alcohol use • Prevention strategies may include parent guidance, reduced availability, sales restrictions for minors, and stronger marketing controls	• Study did not measure prevalence of low-alcoholic beverages • Possible participant confusion on no vs low alcohol - may have misreported no-alcohol consumption • Study findings restricted to the Dutch context may not be representative of other countries

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Underage knowledge, attitudes, intentions and behaviours (n = 5)							
Bartram et al.²⁹ 2025 Australia	To examine whether adolescents implicitly categorise images of zero-alcohol drinks as alcoholic beverages	Experimental	331 adolescents aged 15-17 years who lived in Australia completed a 10 min online experimental survey in April 2024 (52.3% male, 39.6% aged 17 and 72.8% living in a metro location)	ZAPs	• Most ZAP and alcohol images made adolescents think of alcohol • Alcohol: 94.4%; brand-extension ZAPs: 90.7%; new-to-world ZAPs: 85.6%; soft drinks: 5.2% • Responses were slower for ZAPs than alcohol, suggesting ZAPs were seen as less typical alcohol products	• Adolescents appear to categorise ZAPs as alcohol-like rather than soft drinks • ZAP exposure may cue alcohol in similar ways to alcohol products • Authors recommend extending alcohol advertising and minor-access restrictions to ZAPs	• Online setting may reduce real-world relevance • Response times may vary by device/internet speed • Sample was not representative of all adolescents
Bartram et al.³⁰ 2026 Australia	To examine whether exposure to zero-alcohol advertising was associated with adolescents' attitudes and consumption intentions towards alcohol	Cross sectional study	382 Australians aged 15-17 years who completed an online survey representative for gender, state/territory and metropolitan/metropolitan/ regional location	ZAPs	• Seeing and liking ZAP ads was linked to more favourable attitudes to parent alcohol brands • It was also linked to stronger intentions to drink those parent brands • Location-based ad exposure was not linked to general alcohol attitudes or intentions	• ZAP ads may act as surrogate alcohol marketing • Adolescents who saw and liked ZAP ads had more favourable parent-brand attitudes and stronger drinking intentions • Findings support including ZAP ads in alcohol advertising rules	• Cross-sectional design limits causal conclusions • Existing parent-brand attitudes may have influenced ad recall/liking • Adolescents may not notice all ZAP ads, so exposure may be underestimated • Parent presence may have biased responses • Most disadvantaged groups were slightly underrepresented
Booth et al.²⁸ 2025 Australia	To examine adolescents' perceptions and use of ZAPs and their support for a range of potential regulatory actions	Mixed-methods research	Australian adolescents aged 15-17 years: focus groups (n = 44) and national online survey (n = 679)	ZAPs	• ZAPs appealed to many Australian adolescents • They were often seen as a positive alternative to alcohol • Some concerns were raised about gateway effects • Participants supported limiting youth visibility and access	• ZAPs may expose minors to alcohol-related cues • Exposure may increase risk of underage alcohol use • Regulation should protect young people from ZAP exposure • Adults should still be able to use ZAPs as alcohol substitutes	• Web-panel sample may limit representativeness • Australian findings may not generalise to other settings • Cross-sectional design limits causal conclusions • Some survey items were newly developed and not previously tested

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Purves et al.³¹ 2026 Scotland	To investigate young people's awareness of alcohol sponsorship and their perceptions of alibi and NoLo marketing in sports contexts	Qualitative research	Ten online focus groups with 44 young people aged 11-17 years residing in Scotland	NoLo products	- Participants showed high awareness of alcohol brands through logos, alibi sponsorship and links to full-strength products - Alibi marketing was viewed as a strategy to bypass advertising restrictions and influence brand familiarity and future consumption - NoLo advertising was generally perceived as similar to standard alcohol advertising - Branding contributed to perceptions of covert alcohol promotion - NoLo sponsorship was viewed more favourably than alcohol sponsorship because of perceived health benefits	- Alcohol marketing remains visible to young people, even in partially restricted environments - Alibi and NoLo tactics may sustain alcohol brand presence in sport - These tactics may normalise alcohol use and undermine policy efforts to reduce alcohol-related harm - More comprehensive regulatory frameworks may be needed to address indirect marketing and protect young people in sport sponsorship contexts	- Online focus groups may have influenced the depth or nature of engagement - Participant recruitment through market research panel may have introduced selection bias - Scottish findings may not generalise to other settings - Potential influence of social desirability bias, particularly given the sensitive nature of discussing alcohol with young people aged 11-17 in a group setting
Oldham et al.²⁷ 2026 Great Britain	To examine how NoLo drinks are perceived, used, and shaped within family and social contexts in Great Britain	Mixed-methods research	Quant: Alcohol Toolkit Study: 5,890 adults (18+) on attitudes to adolescent NoLo use; 3,652 young people (16–25) on NoLo use; 604 on sequencing of NoLo/alcohol use Qual: Interviews with 14 parent–adolescent dyads	NoLo products	- Most adolescents viewed NoLo drinks as irrelevant, and as an alcohol substitute for adults, as for them the primary purpose of drinking alcohol is at least mild intoxication - In family settings, most adolescents prefer to drink either a standard alcoholic drink, or soft drink	- Current evidence suggests limited positive or negative influence on youth drinking - Ongoing monitoring is needed as the market grows - Longitudinal studies are needed to test gateway effects	- Recall bias in past drinking reports - Cross-sectional design limits causal conclusions - Parent-recruited adolescents may introduce selection/reporting bias - Fathers underrepresented, possibly skewing acceptability findings

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Parent knowledge, attitudes, intentions and behaviours (n = 5)							
Bartram et al.³² 2024 Australia	To assess how attitudinal, behavioural, knowledge, and demographic factors were associated with (1) parents' provision of zero-alcohol beverages to adolescents and (2) parents' intentions to provide zero-alcohol beverages to adolescents before they turn 18	Cross sectional study	1,197 parents of children aged 12-17 years living in Australia	ZAPs	• Most parents (87.9%) had not provided zero-alcohol beverages to their adolescent(s) • A large minority of parents either intended (21.7%) or were unsure whether they would provide (19.9%) zero-alcohol beverages to their adolescent before they turned 18 • Provision and intentions to provide were more likely among parents who believed zero-alcohol beverages had benefits and were acceptable for adolescents to drink • Unexpectedly, a belief that zero-alcohol beverages can influence adolescents to drink alcohol more regularly was not associated with provision of zero-alcohol beverages but was associated with future intentions to provide zero-alcohol beverages • Zero-alcohol provision was associated with incorrect understanding of the Australian Alcohol Guidelines	• Parents' provision and intentions to provide zero-alcohol beverages were associated with beliefs that these products had benefits for adolescents • Provision of alcoholic beverages and incorrect understanding of alcohol guidelines were also associated with zero-alcohol provision • Longitudinal research is needed to assess the net benefits and harms of zero-alcohol beverages for adolescents • A precautionary approach advising parents against provision may be warranted in the interim	• Sample was recruited from an online panel, which may limit generalisability • Items on zero-alcohol beverages were included within a broader survey focused on parental alcohol provision, which may have skewed responses • The survey did not measure parents' own consumption of zero-alcohol beverages • The survey did not assess the temporal order of alcohol and zero-alcohol provision
Bathie et al.³³ 2026 Australia	To explore attitudes to restrictions on ZAPs advertising in public spaces and parental provision of ZAPs to teenagers	Cross sectional study	3,310 Australian adults completed an online panel survey	ZAPs	• Nearly half of sample (45%) disagreed with parental provision of ZAPs to teenagers • Overall, older age and lower socioeconomic status were associated with small increases in opposition to parental supply	• There is a need for public education on ZAPs-related risks and specific messaging may be necessary to build support for regulatory interventions aimed at protecting youth	• Small number of actions examined, of a broad possible range that could reduce ZAP-related harms (e.g. where and how ZAPs can be sold) • Sample skewed to mid-high SES individuals (73%), living in metro location (69%)

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Harrison et al.³⁴ 2023 Australia	To understand parents' awareness of zero-alcohol beverages and their current views about zero-alcohol beverage provision to adolescents and adolescent use	Qualitative research	38 parents of adolescents (aged 12-17 who lived with them at least sometimes) who ranged from 33-60 years of age, with 23 mothers. Most were major city residents, over half living in VIC, 31 in areas from the 2 lowest SES areas, and most reported past-year alcohol consumption, and 13 having consumed zero-alcohol beverages in the past.	ZAPs	• Most parents expressed mixed or ambivalent views about adolescent zero-alcohol beverage use • Few parents expressed entirely negative or entirely positive views • ZAPs were generally perceived as adult beverages • Parents were most concerned that ZAPs could normalise alcohol consumption • Some parents viewed ZAPs as a potential precursor to alcohol initiation • Parents felt ZAPs could prepare adolescents for alcohol in both positive and negative ways • ZAPs were generally viewed as healthier than alcohol but less healthy than water	• Parents reported conflicting and cautious views about providing zero-alcohol beverages to adolescents • Parent-targeted messages may be useful as evidence on the impacts of zero-alcohol beverage availability develops • Messages should highlight the potential risk of normalising alcohol use among young people • Broader policy responses may also be warranted	• Interview questions about ZAPs were asked at the end of interviews focused on parental alcohol provision, which may have influenced responses • Convenience sampling was used • The sample was skewed towards higher socioeconomic groups
Peeters et al.²⁴ 2025 Netherlands	To identify sociodemographic characteristics of adolescent NoLo drinkers (12-16 years) and compare these characteristics with adolescent alcohol- and non-drinkers.	Cross sectional study	4,746 Dutch adolescents aged 12-16 (mean age 14.23)	NoLo products; alcohol vs non-alcohol products	• NoLo-only drinkers reported less restrictive alcohol-related parental rules • Existing parental rules may not effectively prevent NoLo consumption	• NoLo-only adolescent drinkers appear to be a distinct group • They largely resemble non-drinkers, although they also share some characteristics with alcohol drinkers • NoLo-only drinkers do not appear to share the higher-risk profile associated with early and problematic alcohol use • Longitudinal research is needed to examine whether early NoLo use predicts later alcohol use • Prevention strategies may include clearer parental rules, reduced availability, sales restrictions for minors and stronger marketing controls	• Study did not measure prevalence of low-alcoholic beverage use • Participants may have confused no- and low-alcohol products, leading to possible misreporting • Findings are specific to the Dutch context and may not be representative of other countries

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Oldham et al. ²⁷ 2026 Great Britain	To examine how no/low drinks are perceived, used, and shaped within family and social contexts in Great Britain	Mixed-methods research	Quant: Alcohol Toolkit Study: 5,890 adults (18+) on attitudes to adolescent NoLo use; 3,652 young people (16–25) on NoLo use; 604 on sequencing of NoLo/alcohol use Qual: Interviews with 14 parent–adolescent dyads	NoLo products	• Most parents interviewed viewed adolescent NoLo use as generally acceptable • Acceptability depended on setting • Family environments were viewed as the most acceptable context for alcohol-free and low-alcohol drinks • Social settings with friends were viewed as less acceptable • Primary carers who provided NoLo products usually did so in the family home or at family meals or events	• No/low consumption among young adults is currently relatively rare • Around 15% of 16–25-year-olds had used NoLo products in the last month • NoLo drinks currently appear to have limited positive or negative influence on young people’s drinking behaviours • Ongoing monitoring is needed as the market and product popularity evolve • Longitudinal research would help test potential causal gateway effects	• Recall bias in past drinking reports • Cross-sectional design limits causal conclusions • Parent-recruited adolescents may introduce selection/reporting bias • Fathers underrepresented, possibly skewing acceptability findings

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
ADULT-RELATED OUTCOMES							
Adult use (n = 29)							
Anderson & Kokole ⁴³ 2022 Spain	Investigate the potential impact of changes in purchases of zero- and no-alcohol products on changes in purchases of grams of all alcohol over time, investigating if this differs by sociodemographic attributes of households	Time series analysis / interrupted time series analysis	18,954 Spanish households with 1.29 million alcohol purchases (Kantar Worldpanel's (KWP) household shopping panel take-home purchases of alcohol products in Spain between second quarter of 2017 to the end of the first quarter of 2022)	NoLo beer; NoLo wine	- Reducing the alcohol strength of existing higher-strength beers and wines had a greater associated impact on reducing total grams of alcohol purchased than small increases in no-alcohol beer and zero-alcohol wine purchases - For beers, the relative price per gram of alcohol decreased as ABV increased - Increasing price per gram of alcohol for beers above 3.5% ABV was associated with larger increases in no-alcohol beer purchases and larger decreases in total grams of alcohol purchased	- Reformulating existing beers and wines to contain less alcohol may have a greater impact on reducing grams of alcohol purchased than increasing purchases of no-alcohol beers and wines alone - Increasing prices of higher-strength beers, with prices adjusted by alcoholic strength, may stimulate no-alcohol beer purchases and reduce total grams of alcohol purchased	- Study assessed household alcohol purchases from shops and supermarkets only - Alcohol consumed in cafés, bars and restaurants was excluded - Purchases were measured rather than actual alcohol consumption - Adults in a household may not consume equal shares of alcohol purchased - Heavy drinkers tend to be under-represented in household panel data - Alcohol purchases tend to be under-reported in these datasets

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Anderson & Kokole⁴⁹ 2022 Spain	Investigate the impact of lower-strength alcohol products on alcohol purchases by Spanish households	Time series analysis / interrupted time series analysis	18,954 Spanish households with 1.29 million alcohol purchases (KWP household shopping panel take-home purchases of alcohol products in Spain between second quarter of 2017 to the end of the first quarter of 2022. At the household level, the analysis set 90 days as the time between the first purchase of a higher-strength product and the first purchase of a no-alcohol product to define a new no-alcohol purchase)	NoLo beer; NoLo wine	• New purchases of no-alcohol beer were associated with decreased purchases of other beer • New purchases of no-alcohol beer were associated with a 5.3g reduction in total grams of alcohol purchased per adult per household per purchase day • This relationship was stronger in younger households than older households • New purchases of no-alcohol wine were associated with decreased purchases of other wine • New purchases of no-alcohol wine were associated with an 8.2g reduction in total grams of alcohol purchased • The relationship for no-alcohol wine was stronger among older households and those with lower social grades • Higher initial purchase volumes of beer and wine were associated with greater reductions in total grams of alcohol purchased	• Household purchase data supported the theory that substituting higher-alcohol products with no- and low-alcohol products can reduce alcohol purchased • Findings were consistent with previous evidence from British data • Pricing policy, particularly minimum unit pricing, could be used to favour substitution • Further research across jurisdictions is needed to monitor substitution, consumer behaviour, public health effects and unintended consequences • Substitution should complement, not replace, broader WHO SAFER alcohol policy measures	• Study assessed household alcohol purchases from shops and supermarkets only • Alcohol consumed in cafés, bars and restaurants was excluded • Purchases were measured rather than actual alcohol consumption • Adults in a household may not consume equal shares of alcohol purchased • Heavy drinkers tend to be under-represented in household panel data • Alcohol purchases tend to be under-reported in these datasets

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Anderson et al. ⁴² 2022 Great Britain	Investigate potential impact of lower strength alcohol products in reducing household purchases of grams of alcohol over 2015-2019	Time series analysis / interrupted time series analysis	69,803 British households with 4.06 million alcohol purchases (KWP household shopping panel take-home purchases of alcohol products in Great Britain between 2015-2019 (2020 data excluded due to COVID-19))	NoLo beer; NoLo wine	- No-alcohol products made only very small contributions to reductions in grams of alcohol purchased - For beer, reductions were observed mainly in northern England - For wine, small reductions were associated with no-alcohol wine purchases between 2015 and 2019 - The contribution of no-alcohol products was mostly limited to beer-purchasing households - No-alcohol beer and wine sales increased but remained very low as a proportion of all products sold	- Lower-strength alcohol products did not contribute significantly to reduced grams of alcohol purchased by British households between 2015 and 2019 - The potential public health contribution of lower-strength alcohol products remains under-researched - Pricing policies that favour lower-strength products may be needed to realise any public health benefit - Improved product labelling and social norms campaigns may also be needed - Governments should ensure no-alcohol products are not used to circumvent alcohol advertising restrictions	- Follow-up data had a reduced sample size over time - Analysis included household off-trade alcohol purchases only - On-premise purchasing was not captured - Dataset may be biased towards moderate and lighter drinkers - Alcohol purchasing may be under-reported

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Anderson et al.⁴⁶ 2021 Great Britain	To determine if the likelihood of buying and drinking zero alcohol beer (ZAB) (ABV = 0.0%) and low-alcohol beer (LAB) (ABV >0.0% and <3.5%) differs by gender, age, social grade group, income, level of area-based residential deprivation, and region of Great Britain	Cross sectional study	79,411 British households purchase data and 104,635 British 18+ survey respondents (Household purchase data from KWP for 2015-2020; Alcovision survey data from KWP for 2015-2018 of online timeline follow-back diary survey of the previous week's alcohol consumption)	NoLo beer	• Buying and consuming ZAB was more common among households and respondents who bought and drank the most alcohol and beer • ZAB purchasing was more common among younger age groups, particularly people aged 35-44 years • ZAB purchasing was more common in more affluent households and higher social grades • Gaps in ZAB purchasing between higher and lower social grades widened between 2015 and 2020 • LAB had less consistent associations with sociodemographic characteristics • LAB purchasing and consumption were strongly associated with higher alcohol and beer purchasing, men, younger age and higher social grades	• Younger and more socioeconomically advantaged households were more likely to purchase and consume ZAB • Prioritising increased availability of NoLo alone may disproportionately benefit advantaged groups • This could potentially increase health inequalities • Promotion of NoLo should occur alongside structural policies addressing social determinants of health	• Household purchasing data may under-represent heavy drinkers and alcohol purchases • Timeline follow-back survey method covers a limited drinking period • Heavy episodic drinking may be missed
Bowdring et al.⁵⁴ 2024 USA	To describe non-alcoholic beverage (NAB) consumption practices among USA adults consuming alcohol, who is likely to consume NABs and examine whether NAB use influences desire for, and perceived consumption of, alcohol	Cross sectional study	1,906 USA residents aged 18-89 years (who consumed alcohol) completed Survey 1 on NAB consumption, 466 of these completed Survey 2 which also included alcohol consumption measures	ZAPs	• 28% of respondents reported past-year NAB use and 62% had ever used NABs • Non-alcoholic liquor/mocktails were the most common NAB type consumed • NAB consumption frequency and quantity were positively associated with alcohol consumption frequency and quantity	• Most people who screened positive for AUD believed they consumed less alcohol because of NAB use • NABs may be a harm-reduction tool for some consumers • There was no apparent difference in alcohol use severity in relation to NAB quantity among people screening positive for AUD	• Convenience sampling may have introduced selection bias • NAB use may be underestimated because people who do not consume alcohol were excluded • Measures of alcohol quantity, frequency and severity did not specify a past-year timeframe • Limited measurement precision may affect interpretation of AUDIT-C-related findings

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Burke et al.⁶⁰ 2026 Great Britain	To examine whether alcohol drinking motives can help explain differences in NoLo consumption (beer, wine, cider, spirits or other type of alcoholic drink <1.2% ABV)	Cross sectional study	2,549 adults residing in Great Britain aged 16+ (Feb and April 2023 waves of the Alcohol Toolkit Study - a monthly, nationally representative, telephone survey of adults residing in Great Britain)	NoLo alcohol products	- NoLo consumption was associated with hazardous drinking, conformity motives and higher education - Coping motives partly mediated relationships with social grade - Enhancement and social motives weakened the association between hazardous drinking and NoLo use	- Hazardous drinking was positively associated with NoLo consumption - This association was weaker among people drinking to cope with depression, for enhancement or for social reasons - These motives may limit public health potential among some groups, including disadvantaged groups - Other unmeasured factors may contribute to NoLo consumption - Future research should consider taste, ritual, reasons for not drinking alcohol and motives for choosing NoLo over other non-alcoholic alternatives	- Cross-sectional design limits causal inference - Resource constraints prevented full use of the Drinking Motives Questionnaire, which may affect validity and reliability - Response or sample bias cannot be ruled out - Socioeconomic status was measured using education and social grade proxies - Social grade has limitations, including classification of students and pension recipients in the lowest category
Burke et al.⁵⁹ 2025 Great Britain	To determine whether alcohol drinking motives were associated with NoLo consumption after accounting for sociodemographic characteristics and alcohol consumption	Cross sectional study	2,597 weighted sample of adults residing in Great Britain aged 16+ who had drunk alcohol at least once in the previous 12 months (Feb and April 2023 waves of the Alcohol Toolkit Study)	NoLo alcohol products	- Drinking alcohol to conform was associated with increased likelihood of at least monthly NoLo consumption - The association remained after accounting for sociodemographic characteristics and hazardous drinking	- No/Lo drinks may support reduced alcohol consumption by offering an alternative in alcohol-oriented environments - People who drink alcohol to conform are not typically higher-risk drinkers - This may limit the public health benefit of NoLo drinks - Further research is needed to explicitly examine substitution effects	- Cross-sectional design limits causal inference - Resource constraints prevented full use of the Drinking Motives Questionnaire, which may affect validity and reliability - Response or sample bias cannot be ruled out - Socioeconomic status was measured using education and social grade proxies - Social grade has limitations, including classification of students and pension recipients in the lowest category

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Buss et al.³⁶ 2025 Great Britain	To assess trends in the use of alcohol-free and low alcohol drinks to reduce alcohol consumption among people who drink at increasing and higher risk in Great Britain. The study compared trajectories across different subgroups from 2020 to 2024	Repeated cross sectional study	9,397 participants aged 18+, residing in Great Britain with an AUDIT-C score of 5 or above, who had tried to cut down or were making a current attempt to reduce alcohol consumption in the previous year. (Data collected between October 2020 and August 2024 as part of the Smoking and Alcohol Toolkit Study)	NoLo alcohol products	• Use of alcohol-free and low-alcohol drinks to cut down alcohol increased over time • Prevalence rose for both serious and any attempts to cut down • Relative increases were larger among adults aged 65 years and over • Use was higher among women and more advantaged groups • Reliance on no support declined, although uptake of evidence-based support remained low	• Use of alcohol-free and low-alcohol drinks is increasing among people drinking at increasing- and higher-risk levels • Further research is needed to establish effectiveness for alcohol reduction • Evidence-based support for cutting down remains limited despite increased use of these products • Findings may inform public health policy and alcohol-harm reduction strategies	• Self-reported measures may be biased • People who reduced consumption to low-risk levels may have been excluded if their AUDIT-C score was below 5 at interview • Exclusion of waves without relevant variables may have biased results • Some subgroup sample sizes were small • Alcohol-free and low-alcohol drink use could not be distinguished because they were measured together and they were not clearly defined • Terminological differences limit comparison across studies

Author Year Country	Study aim	Study design	Population / participants (data course)	Type of beverage studied	Findings	Conclusion	Key limitations
Clarke et al. ⁴⁷ 2026 Great Britain	To explore the characteristics associated with households that purchase NoLo (products up to 1.2% ABV) drinks 4+ times a year, and whether those characteristics have changed over time	Repeated cross sectional study	14,702 households in Great Britain in 2018 and 15,257 households in 2021. (Worldpanel a continuous, household-level panel dataset collected by the market research company Numerator)	NoLo alcohol products	• In 2021, 5.7% of households purchased NoLo drinks at least four times in the past year, compared with 3.0% in 2018 • Households purchasing NoLo were more likely to purchase standard alcoholic drinks • Households buying the most alcohol were most likely to purchase NoLo drinks • Occasional NoLo purchasers were less likely to be from lower social grades • Occasional NoLo beer purchasers were more likely to purchase alcohol and less likely to be from lower social grades • For NoLo cider and wine, only alcohol purchasing remained significant • Characteristics of occasional NoLo purchasing households did not significantly change between 2018 and 2021	• Households from higher social grades were more likely to regularly purchase NoLo products • Households purchasing more alcohol were also more likely to regularly purchase NoLo products	• Definition of NoLo adoption was based on an arbitrary threshold of four or more purchases per year • Only off-trade purchasing was captured

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Corfe et al.⁵³ 2020 UK	To examine the potential impact of NoLo drinks consumption on the level of alcohol-related harms in the UK	Mixed-methods research	Stakeholders' interviews (n = unknown). Survey participants (a nationally representative sample of 2,003 adults, and a sample of 1,010 past and present drinkers of NoLo products). (Primary data: Opinium survey data (between 29 May 2020 - 4 June 2020), and interviews with experts in industry and the public health space	NoLo alcohol products	- NoLo consumption varied by demographics, with users more likely to be young, male and higher income 21% had consumed an alcohol-free drink in the past 12 months 32% used NoLo in addition to, rather than instead of, alcohol - Moderate and heavy drinkers were more likely to use NoLo both for specific occasions and alongside regular drinking	- Evidence suggests NoLo can support reduced alcohol use for some consumers - Impacts are mixed, with many consumers reporting no change and some using NoLo alongside alcohol - Low consumer awareness, uncertainty about safety for some groups and very small market share may limit impact - NoLo should be treated as one component of broader alcohol harm-reduction strategies, rather than a standalone solution	- Potential survey and interview response biases may apply - Findings may have limited generalisability outside the UK due to differences in policy and regulatory contexts
Davies et al.⁵⁵ 2025 26 countries	To explore beliefs about NoLo products and motives for their use by level of risky drinking using a model of behaviour change (COM-B)	Cross sectional study	33,033 survey respondents aged 16+ who had used alcohol in last 12 months (2022 Global Drug Survey (GDS) an annual, anonymous online survey of people 16+ who have used at least one drug in the past 12 months)	NoLo alcohol products	52.2% of respondents reported NoLo product use in the past 12 months - Recent NoLo use was associated with older age, full-time employment and alcohol consumption - NoLo use showed a non-linear relationship with age, with odds decreasing in middle age - NoLo use showed a non-linear relationship with AUDIT category, with higher prevalence among respondents in the higher-risk category but not those scoring 20 or above - Respondents from several European countries were more likely to report past-year NoLo use	- People drinking for enhancement motives may be less likely to substitute regular-strength alcohol with NoLo products - NoLo use may help some higher-risk drinkers reduce alcohol consumption - Social and motivational factors could be targeted to increase NoLo use - Broader intervention strategies are also needed, including viable social alternatives to drinking alcohol	- Convenience sampling - Use of UK definition of NoLo products which is more narrow than other jurisdictions

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Davies et al.³⁹ 2026 UK	To investigate understanding, perceptions and use of alcohol-free and low-alcohol (NoLo) products among mid-life women	Cross sectional study	497 women aged 40-65 living in the UK who consumed alcohol in the last six months.	NoLo alcohol products	- Nearly half of participants had used NoLo products in the past year - Uptake was more common among participants with higher education and income, raising equity concerns	- Policy should prioritise clear ABV labelling - Inclusive messaging is needed - Equitable access to appealing NoLo options should be improved - NoLo products should emphasise taste, social usability and health benefits to maximise harm-reduction potential	- Cross-sectional design limits causal inference - Retrospective recall of NoLo use may be inaccurate - Limited understanding of ABV definitions may have affected classification of past NoLo use - Inconsistent labelling and international variation in definitions may affect comparability with other NoLo research
De-Loyde et al.⁵⁰ 2024 England	To estimate the impact of introducing a draught alcohol-free beer, thereby increasing the relative availability of these products, on alcohol sales and monetary takings in bars and pubs in England	Randomised controlled trial	14 venues in and around the Bristol area that did not previously sell draught alcohol-free beer	NoLo beer	- Weekly draught alcoholic beer sales were lower when draught alcohol-free beer was available - The mean reduction was approximately 20L per week, equivalent to a 4% reduction in alcoholic draught beer volume - Excluding venues that failed fidelity checks produced an adjusted reduction of approximately 29L per week, equivalent to 5% - Weekly revenue was estimated to increase by £61 per week, equivalent to 1%, although confidence intervals were wide - Confidence intervals around sales and revenue estimates included small or uncertain effects	- Introducing draught alcohol-free beer may reduce the volume of draught alcoholic beer sold - The intervention did not appear to substantially affect net revenue - A 4-5% reduction in alcohol sales could have positive population-level public health effects	- Sales volume was used as a proxy for alcohol consumption - Generalisability may be limited outside Bristol and surrounding areas - The intervention was minimal, involving only one draught tap replacement, which may have reduced effect size

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Gliszczyska-Swiglo et al.⁵⁶ 2025 Poland	Find out how Polish consumers, especially young people, perceive non-alcoholic beer (NAB) and what motivates them in their purchasing decisions	Cross-sectional study	209 participants completed online questionnaire. A total of 15 different NABs (12 different brands) were bought in Polish grocery shops in mid-2022: five brand lager beers, five craft IPA and five wheat beers	NoLo beer	• NAB consumers were mostly aged under 35 years and had higher education and income • Most participants consumed NAB occasionally; none reported daily use • Flavoured NABs were most commonly consumed, followed by light NABs	• NABs may support reduced alcohol consumption for some beer consumers • Advertising could highlight taste, nutritional attributes and potential health-related benefits compared with alcoholic beer • Clearer messaging may be needed to address misunderstanding about alcohol content	• Voluntary and snowball sampling may have introduced selection bias • The sample skewed towards younger people and those with higher socioeconomic status • Findings may not be generalisable to the broader Polish population

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Groefsema et al. ⁵⁷ 2024 Netherlands	To examine the frequency and quantity of alcohol-free consumption, the relationship with alcohol consumption, whether alcohol-free drinks substitute for or add to alcohol use, and potential gender differences	Cross sectional study	318 Dutch university students (mean age 22.6 years, females 70.2%) completed a survey	Alcohol vs non-alcohol products	• More students had never consumed alcohol-free beverages than alcohol • Alcohol-free consumption was most often consumed at a 'monthly or less' frequency (27.7%) • Males more frequently consumed alcohol-free ($\chi^2 = 20.63$, $p = 0.002$) and alcoholic ($\chi^2 = 81.97$, $p < 0.001$) beverages compared to females • Students who recently consumed alcohol-free drinks were also more likely to drink alcohol • Students who had never consumed alcohol-free drinks reported the highest alcohol consumption per drinking day • Most students consumed alcohol-free beverages in addition to alcohol • A smaller group used alcohol-free beverages as substitutes • Substitution was more common among older students and those living independently or in relationships • No notable gender differences were observed	• Most students consumed the same number of alcoholic beverages after starting alcohol-free beverages, suggesting an additive effect • A small group used alcohol-free beverages as substitutes for alcohol	• A large proportion of students answered "I don't know" to the substitution question, suggesting it was difficult to answer • Survey design may have introduced sample bias • The study did not measure how long students had consumed alcohol-free beverages • Differences in duration of alcohol-free or alcohol use may have affected findings

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Jané Llopis et al. ⁴⁴ 2022 Great Britain	To assess whether buying new no- (ABV 0.0%) and low (ABV <3.5%) alcohol beers increases or decreases British household purchases of same-branded higher strength beers	Time series analysis / interrupted time series analysis	6,770 British households which made 17,842 separate purchases of at least one parent beer (KWP 2015–2018 of 64,280 households)	NoLo beer	- Households that had not previously bought higher-strength beer were less likely to start buying it after first buying a same-branded no- or low-alcohol version - When these households later bought the higher-strength product, they purchased about half the volume compared with households that had not bought the no- or low-alcohol version - Among households that had previously bought higher-strength beer, the introduction of a same-branded no- or low-alcohol version was associated with an average reduction of around one-fifth in higher-strength beer volume purchased	- Increased availability of new no- and low-alcohol beers did not appear to act as a gateway to same-branded higher-strength beer purchases - No- and low-alcohol beers appeared to replace some purchases of higher-strength products - Introducing new no- and low-alcohol beers may contribute to reduced alcohol consumption	- Alcohol purchases are among the most under-reported categories in Kantar panel data - The study only considered off-trade beer purchases, which account for just over half of all beer purchases - Household purchases made by adults were captured, but underage purchasing behaviour could not be assessed - Market share of NoLo products very small during study period - Inclusion criteria for brand-level analysis meant only six new NABLAB products and their parent products were considered
Katainen et al. ⁴⁸ 2023 Finland	To examine the associations of sociodemographic characteristics with non-alcoholic beer purchase, and of non-alcoholic beer (NAB) purchases with regular beer purchases	Longitudinal / cohort study	47,066 Finnish residents aged 18+ and loyalty cardholders S Group (via S Group, the largest food retailer in Finland and consisted of longitudinal individual purchases of non-alcoholic and regular beer from grocery stores in 2017 and 2018.)	Alcohol vs non-alcohol products	- NAB made up a small but increasing share of total beer purchases, rising from 2.3% to 3.7% between 2017 and 2018 - Regular beer purchases declined over the same period - NAB purchases were more common among men, older adults, higher-income groups and more highly educated groups - Purchases were highest among people who also purchased the most regular beer	- Educated and affluent consumers appear to be early adopters of NAB in Finland - To promote substitution from regular beer to NAB, the shift towards lower-strength beverages should be supported across social strata	- Loyalty card data only captured purchases made in grocery stores where loyalty cards were used - Some population groups with higher heavy-drinking prevalence may be under-represented - Women were over-represented in the data, and youngest and oldest age groups were under-represented - Loyalty card data reflect household purchases, so the actual consumer of purchased products is uncertain

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Kokole et al. ⁴¹ 2022 UK and EU	To calculate the availability and consumption of non-alcoholic beer (NAB) (ABV <0.5%) in the EU-27 + UK	Repeated cross sectional study	Sold production, exports and imports by PRODCOM list (NACE Rev. 2) dataset, available in Eurostat of non-alcoholic beer in the EU-27 (total and country-level) and the UK between 2013 - 2019	NoLo beer	- Sold production of NAB grew more steeply than regular beer between 2013 and 2019 in the EU-27 - NAB's volume share increased from 1.8% to 3.8% of all beer volume - NAB 's value share increased from 1.6% to 4.1% of all beer produced - Five countries accounted for 80.8% of sold production volume: Germany, Spain, the Netherlands, Poland and Czechia - Per-capita apparent consumption was highest in Czechia, followed by the Netherlands, Spain, Luxembourg and Germany	- NAB availability increased across the EU-27 - Overall changes appeared to be driven by a small number of countries - More country-level research is needed on NoLo consumption trends, drivers and impacts on alcohol-related harm	- PRODCOM data are continually updated and revised, and the paper reflects data available as of November 2021 - Not all data were available due to confidentiality restrictions - Apparent consumption calculations are not recommended in PRODCOM, although only some listed concerns were relevant for NAB

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Mann et al. ⁵⁸ 2026 USA	Measure the association between Alcohol-Free and Low-Alcohol Beverages (AFLAB) consumption and (1) concurrent and (2) subsequent alcohol consumption, risk and change measures (e.g. consequences, quit attempts, abstinence) and drinking motives among young adults	Repeated cross sectional study	877 young adults (849 followed up at W16) from a California-based cohort study across 16 Southern California schools. Analyses focused on participants reporting past-month alcohol use at W15 and W16 (n = 693)	NoLo alcohol products	- At baseline, 24% reported past-month AFLAB use - AFLAB use was more common among women and less common among non-Hispanic white and gay/lesbian participants - AFLAB use was not consistently associated with alcohol risk - Users had slightly lower social drinking motives, which remained after adjustment - Baseline AFLAB use associated with higher odds of abstinence the following year - Baseline AFLAB use was not significantly associated with heavy drinking or alcohol-related consequences - There was some indication of more recent quit attempts among AFLAB users	- AFLAB use among young adults is common - AFLAB use was prospectively associated with alcohol abstinence - There was suggestive evidence of an association with quit attempts - AFLABs may be useful within broader self-regulation strategies as drinking norms evolve - Future research should examine variation across samples and demographic groups	'Young adult' was not clearly defined - Outcomes were self-reported and may be affected by recall bias, social desirability bias or seasonality - Missing data may bias estimates if related to alcohol behaviours or AFLAB use - Estimates should not be interpreted causally

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Maslin et al. ⁴⁰ 2025 UK	To understand the awareness and use of alcohol-free (<0.05% ABV) and low-alcohol drinks (0.05% and 1.2% ABV) amongst currently or recently pregnant women (specifically, the motivations and barriers to consumption, differing risk perception between different ABV levels, and sources of information used)	Cross sectional study	2,092 women living in the UK, aged 18+, currently pregnant, or pregnant in the last year	NoLo alcohol products	• Before pregnancy, 6.1% of respondents were drinking at increasing-risk levels (>14 units/week) • During pregnancy, 13.5% consumed alcohol, with higher prevalence among those in the increasing-risk category • Alcohol-free or low-alcohol drinks were consumed by 71.3% of respondents during pregnancy • Use was higher among those in the increasing-risk category than the lower-risk category	• Alcohol-free and low-alcohol drinks are commonly consumed during pregnancy • Some women are concerned about their safety and receive little information from healthcare professionals • Intake, risk perceptions and acceptability may be influenced by pre-pregnancy alcohol consumption levels • Clarity is needed on the safety and suitability of alcohol-free and low-alcohol drinks during pregnancy, particularly products containing 0.05–1.2% ABV • Clear guidance is needed for healthcare professionals to support consistent advice • The potential harm-reduction role for women drinking at increasing-risk levels before pregnancy requires further investigation	• Digital exclusion and differences in health literacy may have introduced bias • The sample was skewed towards participants with higher education levels, limiting representativeness • Participants aged under 18 years were not recruited • Very few participants were older than 45 years, and this group may have different consumption patterns and attitudes • Findings may not be generalisable outside the UK • Retrospective self-report may have introduced recall bias • Social desirability bias may have occurred due to stigma associated with alcohol use during pregnancy

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Moolla et al.⁴⁵ 2025 Great Britain	Estimate the immediate and long-term impact of changes made in January on sales of standard alcoholic and NoLo drinks in Great Britain	Time series analysis / interrupted time series analysis	Two market research datasets for on-trade sales data (CGA by NielsenIQ service: 499 weeks, 15 Jun 2014–6 Jan 2024) and off-trade sales data (Circana: 208 weeks, 5 Jan 2020–30 Dec 2023)	Alcohol vs non-alcohol products	- Alcoholic drink sales were lower in January than in other months - Alcoholic drink sales were highest in December - NoLo drink sales were higher in January than in February, March and autumn months - NoLo drink sales were lowest in November - The proportion of servings that were NoLo drinks peaked in January - There was weak evidence that large January reductions in standard alcoholic drink sales contributed to long-term reductions in off-trade sales	- Campaigns promoting January abstinence may encourage short-term reductions in alcohol consumption - Replacing standard alcoholic drinks with NoLo alternatives may facilitate short-term reductions - Future strategies could use temporary shifts to encourage longer-term behaviour change, particularly during summer and winter holiday seasons	- Standard serving sizes assumed to be same for alcoholic and NoLo drinks, which may affect measurement accuracy - Serving size assumptions may not account for variation across product formats or self-poured drinks at home - Sales may have been misassigned to months because of week-ending dates - On-trade and off-trade datasets used different week-ending days - Stockpiling or wastage may have biased estimates because purchases may not equal consumption
Perman-Howe et al.⁵¹ 2024 Great Britain	To estimate the prevalence of NoLo alcohol drink consumption among adults in Great Britain, and its associations with individual characteristics	Cross sectional study	7,691 British residents aged 16+ (pooled data from four waves of Alcohol Toolkit Study on alcohol use completed in 2022–2023)	NoLo alcohol products	- Around one-third of participants had ever consumed NoLo drinks - Regular use was uncommon, with 9.8% reporting weekly use - Consumption was more common in off-trade than on-trade settings - Infrequent use suggests NoLo is unlikely to currently contribute substantially to reducing alcohol consumption - NoLo consumers were more likely to be socially advantaged, consume more alcohol, live in southern England and not use nicotine products - Patterns differed by gender, age and rurality. Men were more likely to consume NoLo weekly - Ever use was more common among younger and rural populations, while weekly use was more common among older and urban populations	- A significant minority of people in Great Britain drink NoLo products - NoLo consumption, including weekly use, is more common among heavier drinkers and socially advantaged groups - NoLo products may benefit heavier drinkers if used as substitutes for standard alcoholic drinks - Higher use among socially advantaged groups may sustain or widen health inequalities - Policies should go beyond increasing availability and consider targeted approaches for people at elevated risk of alcohol-related harm	- Some survey response options had low frequencies, resulting in wide confidence intervals - Alcohol-free and low-alcohol products were not distinguished in survey questions or analyses - Sampling bias may have affected results - Recall bias may have affected results

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Piatkowski et al.⁵² 2025 26 countries	To investigate patterns of NoLo drink consumption	Cross sectional study	15,686 survey participants aged between 16–65 years who had reported NoLo product use and completed question set on NoLo drinking occasions. (2022 GDS)	NoLo alcohol products	• Most participants reported less than monthly NoLo use; 11.9% used NoLo at least weekly and 2.3% used NoLo daily • NoLo beer was the most common, followed by wine, cider and spirits • Most participants consumed 1–2 NoLo beverages per sitting • Heavy alcohol use was significantly associated with NoLo consumption	• NoLo preferences were nuanced and shaped by cultural, consumption and economic factors • Heavy alcohol drinking was associated with greater likelihood of NoLo consumption • Findings suggest growing acceptance of NoLo beverages as substitutes for alcohol in some settings • Substitution may be partly motivated by avoiding intoxication or embarrassment in social contexts	• Survey responses were biased towards male, younger, white and more educated participants • Survey participation required use of at least one substance in the past 12 months, excluding people who only consume NoLo products • Self-reported responses may be affected by recall bias
Ruggiero et al.⁵² 2025 Italy	Investigate Italian consumers' perceptions of craft NABLAB and explore possible generational differences in their acceptance	Cross sectional study	527 adults (18+) living in Italy completed a survey	NoLo beer	• 35% of participants had previously tried craft NABLAB • Previous craft NABLAB use was highest among Baby Boomers and Millennials • Gen Z reported the lowest consumption rate, showed curiosity but had lower product familiarity	• Limited market availability and cultural associations between beer and alcohol remained barriers to wider acceptance • Greater availability and health- or functionality-focused communication may support more moderate drinking practices	• Convenience sampling, self-selection and recruitment channels may limit generalisability • Younger and highly educated participants were over-represented • Self-reported data may be affected by social desirability bias • Stated intentions may not reflect actual purchasing behaviour

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Sasso et al.³⁷ 2022 Great Britain	To identify types of alcohol moderation strategies used by British adults, and to explore how concurrent alcohol consumption differs across moderation strategies, focusing on the important role of usual drinking frequency	Repeated cross sectional study	49,204 British adults trying to reduce their drinking from 2013 - 2019. (Alcoveision - a continuous cross-sectional survey conducted by Kantar on alcohol use via a retrospective 7-day diary design)	NoLo alcohol products	- The most common moderation strategy was reducing the number of drinking occasions per week - Other common strategies included reducing the number of drinks per week, replacing alcohol with soft drinks and using smaller serving sizes - Low-alcohol or alcohol-free drinks were among the least common moderation strategies 9.7% participants reported use of low alcohol drinks and 5.6% reported use of alcohol-free drinks	- Adults in Great Britain used four main moderation strategies - These included commitment-based approaches, self-control approaches and mixed strategies - The mixed strategy was the only approach that meaningfully included substituting alcohol with soft drinks and NoLo drinks	- Associations cannot be interpreted causally - Survey and self-report data may be biased - The seven-day retrospective diary period may not capture usual drinking patterns - Moderation technique categories were not clearly defined - NoLo-only occasions were captured in on-trade settings but not off-trade settings, likely underestimating NoLo substitution
Silczuk et al.⁴¹ 2025 Poland	To investigate the sociocultural and epidemiological factors associated with non-alcoholic beer (NAB) consumption in Poland, including motivations for use, consumption context, and its reported impact on alcohol consumption patterns	Cross sectional study	1,114 Polish residents, age 18+ years completed a survey	NoLo beer	71% of participants reported consuming NAB - Nearly 40% consumed NAB at least once a month - NAB use was associated with younger age, relationship status, larger households and employment	- NAB consumption in Poland was associated with identifiable sociodemographic characteristics - Use was motivated by practical and health-related considerations - Nearly half of current users reported reduced or substituted alcohol intake - A substantial proportion incorporated NAB into existing drinking routines without change or with increased alcohol use - Findings indicate heterogeneous behavioural impacts and a need for nuanced public health messaging - Further research is needed on long-term effects of NAB use on alcohol-related outcomes	- Self-reported data may be affected by recall and social desirability bias - Cross-sectional design limits causal inference - Selection bias may have occurred if people more engaged with alcohol-related issues were over-represented

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Valiente et al.⁷ 2026 Great Britain	To measure differences in the availability and sales of NoLo products (<1.2% ABV) in small retailers across disparate types of neighbourhoods in Great Britain over time	Time series analysis / interrupted time series analysis	11,278,479 alcohol transactions across 1,432 small retailers in neighbourhoods with varying levels of socioeconomic deprivation and urbanicity. (The Retail Data Partnership which supplies electronic point-of-sale tills, provided alcohol sales records (including NoLo) from all stores that used their system in Great Britain)	NoLo alcohol products	• No/Lo sales volume tripled over the study period but accounted for only 0.25% of total alcohol sales by 2022 • The proportion of retailers selling NoLo products increased from 34% in 2018 to 68% in 2022 • Retailers in low-deprivation areas were more likely to sell NoLo products and stock a wider product range • NoLo sales volume was higher among retailers in the least deprived neighbourhoods and rural areas in more recent years	• NoLo product availability and sales increased among small retailers in Great Britain between 2018 and 2022 • Increases were uneven, with greater access and uptake in more affluent and rural areas • Findings suggest emerging geographic disparities in access to, and sales of, NoLo alternatives • Potential benefits or harms may therefore be unevenly distributed	• Causality cannot be established • Findings may not generalise to alcohol market or beyond convenience stores • Data were not continuous longitudinal data and may miss short-term fluctuations, events or rapid market changes • The study measured availability and sales, not actual drinking behaviour or substitution effects • Availability was inferred from sales, creating possible measurement error

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Westmoreland et al. ³⁸ 2026 USA	To determine the prevalence of NoLo use patterns and to describe the use and motivation for use of NoLo products	Cross sectional study	1,464 USA residents aged 21+ completed a 30-min survey, with a subgroup (n = 278, 18.9%) of participants recruited in recovery	NoLo alcohol products	• 77% of participants had ever tried NoLo beverages • Among those who had ever tried NoLo, 85.8% reported past-year use • Among participants not in recovery, higher income, food insecurity, moderate- or high-risk alcohol consumption and previous quit attempts were associated with higher odds of ever trying NoLo beverages • Lower income, no health insurance and being a cisgender woman were associated with lower odds of ever trying NoLo beverages • Among participants in recovery, identifying as gay, queer or another sexual identity and using drinking counting or rationing in recovery were associated with higher odds of ever trying NoLo beverages	• NoLo beverages may reduce alcohol consumption among people who could benefit from lower alcohol intake • Further research is needed to examine their public health impact	• Cross-sectional findings do not allow causal conclusions • The sample was skewed towards highly educated participants with health insurance, which may limit generalisability • Participants in recovery were oversampled but recruitment quotas were not met • No- and low-alcohol products were not analysed separately • Some relevant confounders may not have been measured

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Wilson et al. ⁶ 2025 Great Britain	To characterise trends in seven indicators of NoLo sales, purchasing, and consumption in Great Britain between 2014 and 2023, and forecast trends to 2025	Repeated cross sectional study	Population-level data on NoLo availability, sales, purchasing and use were drawn from four sources: on-trade sales data (2014–2023), off-trade sales data (2020–2023), KWP household purchasing data (~30,000 households; 2018–2023), and the Alcohol Toolkit Study (~80,000 respondents; 2020–2024)	NoLo alcohol products	- All 7 indicators increased up to 2025 - By December 2025, forecast values were 2.3% for off-trade NoLo share and 1.0% for on-trade NoLo share - The proportion of pubs selling draught NoLo products was forecast to reach 6.8% - Households buying NoLo but not alcohol were forecast to reach 12.3% - Households that bought higher-alcohol products and increased NoLo purchases were forecast to reach 24.3% - Households increasing NoLo purchases and decreasing alcohol purchases were forecast to reach 1.8% - Risky drinkers using NoLo products when cutting down were forecast to reach 42.4%	- Alcohol-free and low-alcohol drink consumption is increasing in Great Britain. - Consumption is predicted to remain low in 2025, at an estimated 1.0% of on-trade and 2.3% of off-trade alcohol sales volume in servings by the end of 2025 - Some evidence suggests people are using NoLo drinks when attempting to reduce alcohol consumption	- Forecasting could not account for policy or market changes affecting no/lo drinks, including major new marketing campaigns or product launches - Models and forecasts cannot provide causal evidence about any role for no/lo products in reducing alcohol consumption - KWP and ATS data rely on self-reported measures - Population surveys generally estimate lower levels of alcohol consumption than objective measures based on sales or tax data

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Adult knowledge, attitudes, intentions and behaviours (n = 32)							
Akhtar et al.⁶⁹ 2025 Italy	To investigate consumer perception and acceptance of NoLo wines within a traditional wine region in Northern Italy	Cross sectional study	344 Italians aged 18+ adults completed an online survey	NoLo wine	• Familiarity with, and purchasing of, NoLo wines were low • Attitudes were generally positive, especially among women and health-oriented consumers • Women showed higher familiarity, social acceptance and willingness to recommend NoLo wines • Age had a weaker but significant association with familiarity • Regular NoLo consumers showed greater social acceptance and willingness to recommend NoLo wines • Preference for mid- to low-alcohol products and previous alcohol-free drink use were associated with higher purchase frequency	• NoLo wine adoption is emerging in Trentino-Alto Adige • Adoption appears linked to younger consumers' motivations around moderation, wellbeing and social inclusion • Findings suggest opportunities for targeted product development and innovation	• Findings may have limited generalisability because the analysis was region-specific and the sample was predominantly younger and female • Self-selection bias may have occurred, as people interested in wine or NoLo products may have been more likely to respond • Consumption and attitudes were self-reported • Cross-sectional design prevents causal conclusions
Bowdring et al.⁵⁴ 2024 USA	To describe non-alcoholic beverage (NAB) consumption practices among USA adults consuming alcohol, who are likely to consume NABs and examine whether NAB use influences desire for and perceived consumption of alcohol	Cross sectional study	1,906 USA residents aged 18-89 years (who consumed alcohol) completed Survey 1 on NAB consumption, 466 of these completed Survey 2 which also included alcohol consumption measures	NABs	• Respondents who screened positive for AUD were more likely to use NABs to decrease or abstain from alcohol • Among respondents who screened positive for AUD, 68% reported lower alcohol consumption due to NAB use and 3% reported higher consumption	• Most people who screened positive for AUD believed they consumed less alcohol because of NAB use • NABs may be a harm-reduction tool for some consumers • There was no apparent difference in alcohol use severity in relation to NAB quantity among people screening positive for AUD	• Convenience sampling may have introduced selection bias • NAB use may be underestimated because people who do not consume alcohol were excluded • Measures of alcohol quantity, frequency and severity did not specify a past-year timeframe • Limited measurement precision may affect interpretation of AUDIT-C-related findings

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Burton et al. ⁶⁴ 2025 England	Explore women's views towards NoLo consumption during pregnancy including barriers and enablers	Qualitative research	18 pregnant women with a mean age of 32 (range 25–39) from diverse ethnic and socio-economic backgrounds from England completed semi-structured photo-elicitation interviews	NoLo alcohol products	2 themes were identified: navigating the sociocultural environment and navigating the NoLo market - Women used NoLo products to support abstinence during pregnancy while managing social expectations to drink alcohol - Pricing, availability, inconsistent professional guidance and confusing marketing, branding and labelling hindered NoLo use	- NoLo products may support social inclusion and satisfy social cravings for alcohol-adjacent products during pregnancy - Unclear guidance on risk and perceived harms of low-alcohol drinks affects consumption - Clear, evidence-informed guidance on NoLo products is needed - Clear marketing and labelling distinctions between no- and low-alcohol products are important for potential harm reduction	- Restricting the sample to English-speaking participants with smartphone access may have excluded migrants and socioeconomically disadvantaged groups - The sample was skewed towards participants with university education - Engagement with the photo-elicitation method varied between participants - The study did not examine women's drinking patterns before pregnancy - Participants may have previously consumed alcohol at low levels or used NoLo products before pregnancy
Burton et al. ⁶⁵ 2025 UK	To determine the impact of alcohol strength on attitudes around, and perceived harm of, special occasion drinking in pregnancy (from three drink strength conditions: standard 11%, lower strength 7.5% and alcohol free 0.0% ABV)	Experimental vignette study	1,095 UK residents aged 18+ self-identified as being assigned female at birth	Alcohol vs non-alcohol products	- Standard- and lower-strength alcoholic beverages were viewed as more harmful than alcohol-free drinks - Participants agreed more with alcohol-free drink choices than standard- or lower-strength alcohol choices - Perceived harm was higher when participants rated their own hypothetical alcohol use than when rating observed hypothetical alcohol use - Participants who had drunk alcohol during pregnancy rated alcohol choices as less harmful and more acceptable than those who had not	- Perceived harm and ability to apply risk information to one's own circumstances may be important for reducing alcohol-exposed pregnancies - Public health campaigns should compassionately explain risks across drinking behaviours - Campaigns should explicitly address stigma and shame around alcohol use during pregnancy	- ABV levels were based on products currently on the market, but the threshold at which products are perceived as more or less harmful is unknown - Only wine was examined - The study focused on a single celebratory drinking occasion, findings may differ for everyday drinking scenarios - Convenience sampling was used, and participants reported low alcohol use - Findings may not apply to heavier drinkers

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Burton et al. ⁶³ 2025 UK	To examine stigma and discrimination attributed to pregnant women consuming alcohol of varying strength and social context, within hypothetical scenarios in three studies adopting a 2 (social context: alone vs. with friends) x 3 (alcohol type: standard ABV vs low ABV vs alcohol free)	Experimental vignette study	UK residents aged 18+ not currently pregnant, no current or former diagnosis of a substance use or eating disorder (Study 1 n=179; Study 2 n=388; Study 3 n=487; Total N=1,054)	Alcohol vs non-alcohol products	- Alcohol use during pregnancy was associated with higher stigma than alcohol-free alternatives - Standard and low-alcohol drinks attracted greater stigma across multiple domains, while alcohol-free products were least stigmatised, likely reflecting broader social norms around abstinence	Public health messaging should shift towards risk-informed education to shape societal norms of abstinence and reduce stigmatisation	- Vignette method may lack ecological validity - Samples 95.16% female - Differences in age and missing educational data, particularly in Study 1, limit comparability of pooled effects across studies and may affect generalisability - Stigma measure may not be the most appropriate for this population - Low alcohol ABV not defined in the vignette
Corfe et al. ⁵³ 2020 UK	To examine the potential impact of NoLo drinks consumption on the level of alcohol-related harms in the UK	Mixed-methods research	Stakeholders' interviews (n = unknown). Survey participants (a nationally representative sample of 2,003 adults, and a sample of 1,010 past and present drinkers of NoLo products). (Primary data: Opinium survey data (between 29 May 2020 - 4 June 2020), and interviews with experts in industry and the public health space	NoLo alcohol products	- Among recent users, the main reason for use was drinking in situations where stronger alcohol was unsuitable, such as before driving - Common reasons for non-use were preferring soft drinks or conventional alcohol - Half of booster-sample participants reported no change in alcohol consumption after using NoLo drinks - Among those reporting change, reductions were more common than increases 32% used NoLo in addition to, rather than instead of, alcohol - Moderate and heavy drinkers were more likely to use NoLo both for specific occasions and alongside regular drinking	- Evidence suggests NoLo can support reduced alcohol use for some consumers - Impacts are mixed, with many consumers reporting no change and some using NoLo alongside alcohol - Low consumer awareness, uncertainty about safety for some groups and very small market share may limit impact - NoLo should be treated as one component of broader alcohol harm-reduction strategies, rather than a standalone solution	- Potential survey and interview response biases may apply - Findings may have limited generalisability outside the UK due to differences in policy and regulatory contexts

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Davey ⁷⁵ 2022 England	To analyse the demographics of customers at the UK's first store that exclusively sells NoLo beverages, including how and why they engaged with NoLo drinks (345 products sold from 101 brands, <0.5% ABV)	Qualitative research	Observational data from 148 customers who attended the London shop between Dec 2021 and March 2022, and semi-structured, one-to-one interviews with five staff members	NoLo alcohol products	• There were similar numbers of non-drinkers and current drinkers among customers • Women made up the majority of customers, and non-drinking women outnumbered non-drinking men • Most customers were white and mainly millennials, which did not reflect the local London population • NoLo products supported alcohol-free or mindful drinking, with preferences shaped by drinking status • Former drinkers engaged most enthusiastically, especially with tasting options • Recent quitters were more likely to buy products for home use • Some people in recovery sought advice because of relapse concerns • Some pregnant women were dissatisfied due to limited suitable options and concerns about herbal and caffeine ingredients • The off-licence functioned as a stigma-free sober space for trying products and social connection	• The off-licence attracted a more diverse customer segment than previously described in NoLo research • Drinking status was the main influence on how customers experienced and used NoLo beverages • Duration of abstinence shaped how customers used NoLo products • NoLo products were used to support a mindful approach to drinking • Some drinkers used NoLo products to fit in with non-drinking friends or family • Some drinkers appeared to assert their drinking identity in the alcohol-free space	• Customer demographics were based on researcher interpretation of gender, ethnicity and age, limiting reliability • Researcher notes were made after shifts, introducing potential recall bias • Data analysis was conducted by one researcher • Sample may be biased towards people who attended the central London store

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Davey ⁶⁷ 2024 UK	How women in recovery navigate the protective and risk factors associated with no- and low-alcohol drinks through practices of consumption	Qualitative research	25 UK-based women aged between 25-72, who were in longer-term recovery (6 months-10 years) and used online sobriety communities, participated in semi-structured interviews	NoLo alcohol products	- Women in recovery described NoLo drinks as both potential harm-reduction tools and possible relapse triggers - Some participants used direct substitution to help establish sobriety and later tapered use - Others avoided NoLo products in early recovery and increased use once recovery stabilised - Some avoided NoLo consumption, particularly wine at home, because it resembled past drinking motivations and behaviours - Use in social events could support social connection and help participants pass as drinkers - Most participants did not choose products based on ABV, and low ABV was likely presumed	- Substitution practices were shaped by participants' recovery stage, social context and product type - Participants selectively replicated and resisted former drinking practices to balance perceived benefits and relapse risks - Clearer definitions and labelling of NoLo products are needed - Further research is needed on NoLo use across different recovery cultures	- Ethnographic findings may be context-specific and not generalisable - Findings may be subject to researcher bias - Only one researcher was involved
Davies et al. ⁵⁵ 2025 26 countries	To explore beliefs about NoLo products and motives for their use by level of risky drinking using a model of behaviour change (COM-B)	Cross sectional study	33,033 survey respondents (2022 GDS)	NoLo alcohol products	- High-risk drinkers were more likely to believe NoLo products could help them to drink less and to avoid embarrassment - Higher-risk drinkers who had never consumed NoLo products were more likely to report drinking to be intoxicated and believed they would not have a good time if they switched - Higher-risk drinkers believed NoLo products would make them drink alcohol more regularly	- People drinking for enhancement motives may be less likely to substitute regular-strength alcohol with NoLo products - NoLo use may help some higher-risk drinkers reduce alcohol consumption - Social and motivational factors could be targeted to increase NoLo use - Broader intervention strategies are also needed, including viable social alternatives to drinking alcohol	- Convenience sampling - Use of UK definition of NoLo products which is more narrow than other jurisdictions

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Davies et al. ³⁹ 2026 UK	To investigate understanding, perceptions and use of alcohol-free and low-alcohol (NoLo) products among mid-life women	Cross sectional study	497 women aged 40-65 living in the UK who consumed alcohol in the last six months.	NoLo alcohol products	• Most respondents misunderstood ABV terms, with 64% assuming alcohol-free meant 0% ABV • 3 dimensions of perceptions of NoLo products: social benefits, health impacts, and alcohol-related effects • Recent users had more positive views of the social and health benefits of NoLo products, suggesting they see them as both socially acceptable and healthier alternatives • Acceptability varied by context, with birthday celebrations rated most acceptable and a child drinking a product at school least acceptable, and low acceptability of NoLo products in contexts such as the gym or workplace. Alcohol-free options were consistently viewed as more appropriate than low-alcohol ones, particularly in sensitive situations (e.g. pregnancy, antidepressant use) • Around 75% rated NoLo substitution as helpful for reducing alcohol intake • Enhancement motives and AUDIT scores were mostly negatively associated with perceived helpfulness • Taste motives showed no clear effect, suggesting determinants of use and beliefs about helpfulness may differ	• Policy should prioritise clear ABV labelling • Inclusive messaging is needed • Equitable access to appealing NoLo options should be improved • NoLo products should emphasise taste, social usability and health benefits to maximise harm-reduction potential	• Cross-sectional design limits causal inference. • Retrospective recall of NoLo use may be inaccurate • Limited understanding of ABV definitions may have affected classification of past NoLo use • Inconsistent labelling and international variation in definitions may affect comparability with other NoLo research

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Day et al. ⁶⁸ 2024 Australia	To examine consumer perceptions and behaviours within the no-alcohol (NA) category (<0.5% ABV), particularly consumer awareness, experience, willingness to try, motivations, taste perceptions and liking, willingness to pay, and intention to consume	Mixed-methods	Study 1: 679 Australians aged 18+ who had drunk alcohol in past 6 months completed an online survey Study 2: 32 Australians aged 18+ participated in small group tasting experiments	ZAPs	• 91.6% aware of NA beer or cider • Men more aware than women of beer or cider, women more aware of sparkling or wine. People aged 55-65, with greater than a high school diploma and household earning more than 50K had higher awareness levels • 60% unwilling to try NA options, mainly because they drink alcohol to get intoxicated, lack of interest or prefer water/soft drinks • Willingness to try included health reasons (42%), to drink less alcohol (39%) or so they can drive (39%) • Most were willing to pay substantially less than average price for all NA options (and less than alcoholic counterparts), which wasn't related to any SES factors or tasting experience • After tasting, participants were more likely to intend to consume NA white wine but not other NA beverages; willingness to pay was significantly reduced after tasting NA wine	• While high awareness signalled a growing consumer market for NA beverages, work remains to improve consumer attitude, acceptance, and willingness to pay for them • As perceived taste plays a vital role in consumer acceptance, producers and marketers must improve production techniques and messaging to overcome barriers to consumption	• Convenience and panel sampling, most respondents female and highly educated

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Gliszczynska-Swiglo et al. ⁵⁶ 2025 Poland	Find out how Polish consumers, especially young people, perceive non-alcoholic beer (NAB) and what motivates them in their purchasing decisions	Cross sectional study	209 participants completed online questionnaire. 15 different NABs (12 different brands) were bought in Polish grocery shops in mid-2022: five brand lager beers, five craft IPA and five wheat beers	NoLo beer	• Key reasons for purchasing NABs included for refreshment (53%), the ability to drive after drinking (52%), and for taste reasons (29%) • Less common reasons were to relax (17%), because cannot consume alcohol (15%) or for dietary reasons (10%) • Factors influencing decision to purchase NABs were taste (86%), availability (73%), price (61%), brand (59%), friends' opinion (52%), and habit (47%) • The energy value of beer and the presence of sugar were important for 36% and 34% of respondents, respectively; more for women than men • Product labelling was unimportant for 46%, and important for 36% of respondents • NABs were associated with refreshment, driving, relaxation, fruit beverages and sobriety. Participants valued beer taste and aroma without compromising daily activities such as driving or physical activity • Key purchase factors included taste, availability, price, brand and friends' opinions. Sugar content was more important for women than men	• NABs may support reduced alcohol consumption for some beer consumers • Advertising could highlight taste, nutritional attributes and potential health-related benefits compared with alcoholic beer • Clearer messaging may be needed to address misunderstanding about alcohol content	• Voluntary and snowball sampling may have biased sample • The sample skewed to younger people with a relatively high SES • Findings may not be generalisable to the broader Polish population

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Hamerman & Aggarwal ⁷¹ 2025 USA	To understand what influences consumer decision-making regarding non-alcoholic beer (NAB), using three 'studies' (survey, group interviews and content analysis)	Mixed-methods	Study 1 – online survey of 541 adult USA residents aged 21+ Study 2 – online group interviews with 13 students aged 21+ Study 3 – website and Instagram content analysis of 20 brands of NAB (n = 82 communications relating to NAB)	NoLo beer	- Multiple factors predicted affinity for NAB in survey results: perceived taste of NAB, frequency of beer consumption, health consciousness, intention to cut back on alcohol, if one's friends drink NAB, and religious observance - Group interviews suggested taste (particularly in simulating the taste of conventional beer) was the most important requirement for NAB - Content analysis examining marketing communications from producers of NAB found taste was the dominant theme of the marketing communications	- Consumers saw taste as the main factor influencing their willingness to drink NAB, especially when it tasted similar to regular beer - Health reasons and wanting to cut back on alcohol also made people more likely to choose NAB - Some consumers chose NAB to help them fit in during social drinking situations - NAB marketing commonly focused on taste, as well as health and social benefits - Low awareness of the available NAB options was a key barrier to uptake	- Possible sample bias: sourced from AMT – a crowdsourcing platform; skewed demographics (42% women, 88% had at least a Bachelor's degree, 88% Caucasian) - Bias inherent with focus groups and the online format exposure to NAB may vary based on local availability - Limited generalisability (e.g. study 2 participants mostly graduate business students, aged 21+, based in the New York metro area)
Jia et al. ⁷⁹ 2026 UK	To investigate the impact of brand-matched NoLo advertising on purchasing behaviours, in a simulated online supermarket, in the UK	Randomised controlled trial	1,638 UK residents who regularly consumed alcohol (aged 18-91), assigned to one of three groups: 1) alcohol adverts, 2) NoLo adverts, 3) unrelated adverts who then selected food and drinks for a barbeque in a simulated online supermarket	NoLo alcohol products	- Viewing NoLo (but not alcohol), adverts significantly increased selection of the advertised products, compared with unrelated adverts, although there was no significant increase in choosing the alcoholic version - Brand recall was 59% across groups. Among those recalling the brand, 96% in the alcohol group also correctly identified the product, while 44% in the NoLo group recalled the alcoholic version ($P < 0.001$)	Exposure to advertisements for brand-matched alcohol-free and low-alcohol drinks increases brand (over product) recall, but, while the direction of effects is consistent with these advertisements promoting the selection of alcoholic beverages, evidence of the impact on alcohol selection is inconclusive	- Participants did not pay for, or receive, the products, which may limit real-world relevance - Some participants may have guessed the experiment purpose, introducing response or demand bias - Low completion rate and high attrition - Only tested visual image advertising, not other formats

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Kennedy et al. ⁸² 2025 NZ	To explore effect of zero-alcohol aisle placement in supermarkets on alcohol-related social norms across ethnic groups and on intentions to buy and consume both alcohol and zero-alcohol products	Experimental	908 NZ residents aged 18+ including 253 Maori, 85 Pasifika, and 508 general population.	ZAPs	- Aisle placement of ZAPs did not affect social norms about alcohol acceptability - No increase in intention to buy or consume alcohol was observed - No significant differences were found between Māori, Pasifika and the general population	- Māori and Pasifika responses were similar to the general population - Findings suggest possible variability, but the sample was small - Future interventions should consider cultural perspectives on alcohol norms and use before targeting specific groups	- Online shelf-image experiment, not field-based - Zero-alcohol products may create a gateway effect to full-strength products - Females were over-represented (66%)
Kersbergen et al. ⁷⁶ 2025 Great Britain	To investigate the sociodemographic characteristics of people who use NoLo (<1.2 % ABV) to restrict drinking and whether these attempts were successful	Repeated cross sectional study	1,022 residents aged 16+ of Great Britain who attempted to restrict drinking in the last year (Four waves of data (2023-24) from the Alcohol Toolkit Study)	NoLo alcohol products	- One-third of people who attempted to restrict drinking used NoLo in their most recent attempt, with 77% reporting reduced alcohol consumption after the restriction attempt 90% of those reporting serious attempts reported reduced alcohol consumption - Use of NoLo to restrict drinking was more common among regular users - Use was also more common among those attempting to restrict drinking due to future health concerns - Women were more likely than men to use NoLo during serious restriction attempts - No association was found between using NoLo and successful reduction attempts	- Regular NoLo consumers and those concerned about future health problems were more likely to use NoLo drinks to support restriction attempts - Evidence remains inconclusive on whether NoLo use improves the success of alcohol-reduction attempts - Organisations should be cautious about making strong claims about NoLo as a tool for restricting drinking - Claims should be especially cautious when comparing NoLo with established evidence-based tools	- Retrospective cross-sectional design prevents causal inference - People unsuccessful in restricting drinking may have been less likely to report a restriction attempt - Participants reporting no alcohol use in the past 12 months were not asked about restriction attempts - Retrospective self-report may introduce recall bias - Social desirability bias may have affected responses

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Kumar et al. ⁷⁷ 2025 Italy	To evaluate consumers' ability to differentiate wine samples based on alcohol content (12%, 6%, and 0% ABV), perceptions of overall quality, and the motivations and barriers influencing the choice of alcohol-free wine across demographics (age, gender, and education)	Experimental (sensory evaluation and survey)	59 participants were recruited from within the Department of Agricultural and Food Sciences, University of Bologna	NoLo wine; Alcohol vs non-alcohol products	• Main motivations: safety (53%), health/wellness (44%) and avoiding alcohol (37%) • Key barriers: sensory shortcomings (64%), higher cost (25%) and limited availability (24%) • Education and age influenced motivations for alcohol-free social occasions and health/wellness benefits • No demographic differences were found for key barriers	• Most participants could distinguish wine samples by alcohol content • Quality ratings declined as alcohol content decreased; alcohol-free wine rated lowest • Key motivations were safety, health/wellness and avoiding alcohol • Main barriers were poor sensory qualities, higher price, limited availability and limited product variety	• Sampling skewed toward food science students/researchers, limiting generalisability • Study examined wine only
Maslin et al. ⁴⁰ 2025 UK	To understand the awareness and use of alcohol-free (<0.05% ABV) and low-alcohol drinks (0.05% and 1.2% ABV) amongst currently or recently pregnant women (specifically, the motivations and barriers to consumption, differing risk perception between different ABV levels, and sources of information used)	Cross sectional study	2,092 women living in the UK, aged 18+, currently pregnant, or pregnant in the last year	NoLo alcohol products	• Common reasons for use were choosing a safer alternative and feeling included in social events involving alcohol • More than half of respondents thought there was insufficient information about alcohol-free and low-alcohol drinks during pregnancy • Internet searching was the main information source	• Alcohol-free and low-alcohol drinks are commonly consumed during pregnancy • Some women are concerned about their safety and receive little information from healthcare professionals • Intake, risk perceptions and acceptability may be influenced by pre-pregnancy alcohol consumption levels • Clarity is needed on the safety and suitability of alcohol-free and low-alcohol drinks during pregnancy, particularly products containing 0.05–1.2% ABV • Clear guidance is needed for healthcare professionals to support consistent advice • The potential harm-reduction role for women drinking at increasing-risk levels before pregnancy requires further investigation	• Digital exclusion and differences in health literacy may have introduced bias • The sample was skewed towards participants with higher education levels, limiting representativeness • Participants aged under 18 years were not recruited • Very few participants were older than 45 years, and this group may have different consumption patterns and attitudes • Findings may not be generalisable outside the UK • Retrospective self-report may have introduced recall bias • Social desirability bias may have occurred due to stigma associated with alcohol use during pregnancy

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Nicholls ⁷⁴ 2026 UK	To explore how NoLos are used by consumers to feel included and/or 'pass' as drinkers in social settings	Qualitative research	15 in-depth interviews with drinkers and non-drinkers who regularly consumed NoLos (at least 3 times within the previous 6 months), aged 22- 68 years	NoLo alcohol products	• Three themes identified: • 1) Inclusion and rituals: NoLos offered choice and helped people feel included in drinking practices • 2) Appeasing drinkers: NoLos helped conceal non-drinking and perform 'being fun' • 3) Alcohol–NoLo relationship: NoLos were seen as 'fake' alcohol, reinforcing drinking norms and links to big alcohol	• NoLos may support inclusivity and sociability • Their capacity to challenge drinking norms is limited when used to hide non-drinking • NoLos may reinforce normative drinking cultures and social expectations around alcohol	• Small sample with positive views of NoLos • Middle-class and ethnic bias limits generalisability
Nicholls ⁷⁰ 2024 UK	To explore how NoLo products are marketed and used (specifically, the ways in which NoLo consumption is entangled with notions of the enterprising self in relation to health, choice/ responsibility, productivity and the future)	Qualitative research	15 regular NoLo drinkers completed semi-structured interviews	NoLo alcohol products	• NoLo use was shaped by themes of choice, productivity and future health • Participants valued greater choice and active self-management of drinking • NoLo products helped participants balance alcohol-like experiences with fewer negative effects • Avoiding hangovers supported productivity • Participants were motivated by both short-term next-day benefits and longer-term health considerations	• NoLo products enabled consumers to construct identities as light, hybrid, moderate or non-drinkers • NoLo consumption helped consumers frame drinking choices around health, productivity and future wellbeing • Drinking less or not drinking could be presented as a personal self-development choice • NoLo use did not necessarily represent a moral stance or critique of dominant drinking culture	• Sample representativeness may limit generalisability • Recall bias may have affected findings • Response bias and social desirability bias may have influenced responses • One researcher conducted data collection, analysis and interpretation

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Palmer et al. ⁶⁶ 2025 Australia	To explore young risky drinkers' awareness, perceptions and behaviours towards low alcohol beverage (LAB) products (<1.15%ABV)	Cross sectional study	159 Australian adults aged 18-24, who had consumed more than 4 standard drinks in the one drinking occasion in the last three months, completed an online survey	Low alcohol products	- Awareness: fewer than 10% correctly identified LAB strength cut-offs - Use: 51% had tried LABs, usually only a few times. Use more likely among those concerned about productivity, peer drinking recall and wine drinking - Main drivers: curiosity (28%), peer/family influence (28%), reducing alcohol (27%) - Non-use: 49% never tried LABs, mainly due to drinking to get drunk, not considering them, or preferring stronger drinks - Perceptions: most felt LABs could help them (64%) and peers (63%) moderate drinking	- LABs may help young Australian risky drinkers moderate alcohol use - Most had used LABs only occasionally or not at all - Further research is needed on whether greater exposure changes drinking behaviour - Normalising LABs as alternatives in drinking settings may be warranted	Convenience sample may limit generalisability
Perman-Howe et al. ³⁵ 2026 England & Scotland	To examine how and why people who drink at high-risk levels embed alcohol-free and low-alcohol drinks into their everyday practices when trying to reduce their alcohol consumption	Qualitative research	Four online focus groups with 31 adults from England and Scotland who had made at least one attempt to reduce their high-risk alcohol consumption in the previous 12 months	NoLo alcohol products	- Three patterns of alcohol-free and low-alcohol drink use emerged - Some participants used these drinks to replicate social drinking rituals outside the home - Others incorporated them into routine home activities but still faced pressure to consume alcohol in social settings - Some rejected these products because of perceived poor taste, high cost and absence of alcohol effects - Participants integrated alcohol-free and low-alcohol drinks into existing drinking practices rather than new or non-drinking practices	- NoLo drinks enabled partial reconfiguration of drinking practices among some high-risk drinkers trying to cut down - NoLo drinks allowed consumers to maintain the social performance of drinking without alcohol - Reconfiguration differed according to perceptions of product properties, perceived value and pre-existing drinking practices	- Sample lacked older people, people from minoritised ethnic groups and people from lower social grades - Findings could not be validated with participants because contact details were unavailable - Social desirability bias may have influenced responses

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Pettigrew et al. ⁷⁸ 2026 Australia	To: (i) identify factors that can affect ZAPs consumption as a substitute to alcohol; (ii) identify factors that may influence ZAPs consumption as an additive to alcohol; and (iii) explore whether consumers' views on ZAPs are aligned with the WHO's recommended policy options	Qualitative research	83 adults from 3 Australian states who participated in 9 online focus groups and consumed alcohol at least twice monthly	ZAPs	- Barriers to substitution: higher cost, poor taste and lack of intoxication effect - Facilitators for addition: suitable when driving, pregnant, at work, or when intoxication is not desired - Consumer views broadly aligned with WHO harm-reduction policies - Men more often used ZAPs and discussed substitution; women more often rejected ZAPs due to taste or perceived pointlessness	- Participants identified both benefits and risks of ZAPs - Findings reflect tensions between substitution and addition use - Evidence is still unclear on population-level impacts of ZAPs on alcohol consumption - Results suggest support for policies to minimise potential harms to children	- Participants were not directly asked about WHO policy recommendations - Focus groups may be affected by group dynamics - Only three states were represented
Piatkowski et al. ⁵² 2025 26 countries	To investigate patterns of NoLo drink consumption	Cross sectional study	15,686 survey participants aged between 16-65 years who had reported NoLo product use and completed question set on NoLo drinking occasions. (2022 GDS)	NoLo alcohol products	- Typical drinking occasions varied, with some participants drinking only NoLo and others combining NoLo and alcohol - NoLo use was more common in relaxed environments than team or party settings - Common reasons for use included avoiding intoxication, driving, taste, health reasons and pregnancy - Motivations varied by pattern of use, including avoiding negative alcohol effects, health choices and social reasons	- NoLo preferences were nuanced and shaped by cultural, consumption and economic factors - Heavy alcohol drinking was associated with greater likelihood of NoLo consumption - Findings suggest growing acceptance of NoLo beverages as substitutes for alcohol in some settings - Substitution may be partly motivated by avoiding intoxication or embarrassment in social contexts	- Survey responses were biased towards male, younger, white and more educated participants - Survey participation required use of at least one substance in the past 12 months, excluding people who only consume NoLo products - Self-reported responses may be affected by recall bias

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Ramírez Pagès et al. ⁷³ 2024 Spain	To examine consumer perceptions regarding the consumption of NoLo spirits, and the motivations and barriers towards NoLo spirit purchase, within the paradoxical context of increased alcohol consumption alongside societal efforts towards sustainable living	Mixed-methods	Study 1: In-depth interviews with food service professionals (n=13) and industry experts (n=3); focus group discussions with consumers (n=25), all aged 18+. Study 2: 620 survey respondents aged 18+	NoLo spirits	• Purchase intentions for NoLo spirits are linked to health consciousness and the desire to enjoy social occasions without alcohol's effects • Social pressure to drink alcohol can discourage NoLo consumptionReasons for consuming NoLo spirits outweigh reasons against consumption, with differences across age groups • Adults under 30 years are generally less interested in NoLo spirits • NoLo spirits are more commonly consumed in the afternoon than at night	• Primary motivations of NoLo spirit use are health concerns and avoiding the effects of alcohol, particularly among adults aged 30+ • The social role of drinking remains an important influence on NoLo use • NoLo spirits often used to moderate alcohol intake, e.g. alternating between alcoholic and non-alcoholic drinks • Increasing uptake among younger adults may require marketing that emphasises novelty, social appeal, and enjoyment without alcohol	• Measures intention to purchase and not actual behaviour • Focuses on social drinkers (in Spain drinking is closely tied to socialising); the exclusion of people who drink in other settings is an intentional limitation • Bias inherent with focus group and survey data and purposive/ convenience sampling • Possibly limited generalisability outside of Spain

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Ruggiero et al. ⁶² 2025 Italy	Investigate Italian consumers' perceptions of craft NABLAB and explore possible generational differences in their acceptance	Cross sectional study	527 adults (18+) living in Italy completed a survey	NoLo beer	- Italian consumers showed growing interest in craft NABLAB, especially when linked to wellness and active lifestyle benefits 48% of respondents would consider purchasing craft NABLAB, intention highest among Boomers (55%) 55% had higher motivation to purchase when informed about their potential health benefits (highest in Boomers - 67%, lowest in Millennials - 50%) - Perceived availability low; 22% considered NABLABs easy to find (highest for Millennials - 25%, lowest for Gen X - 18%). - Considering harmful effects of alcohol, 54% would prefer to buy a craft NABLAB rather than a traditional one - Boomers most willing (62%), Gen X least (51%) 68% would recommend craft NABLAB to others interested in their functional properties - highest recommendations amongst Boomers and Gen Z (each 75%) 61.9% willing to pay higher price for a craft NABLAB (Millennials 62% and Boomers 65% most willing, Gen X (55%) least)	- Italian consumers showed growing interest in craft NABLAB, especially when linked to wellness and active lifestyle benefits - Limited market availability and cultural associations between beer and alcohol remained barriers to wider acceptance - Baby Boomers and Millennials were most receptive, though for different reasons - Gen Z showed curiosity but had lower product familiarity - Greater availability and health- or functionality-focused communication may support more moderate drinking practices	- Convenience sampling, self-selection and recruitment channels may limit generalisability - Younger and highly educated participants were over-represented - Self-reported data may be affected by social desirability bias - Stated intentions may not reflect actual purchasing behaviour

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Shaw et al. ⁷² 2023 Australia	To understand consumers' attitudes toward NOLO wines and be able to advise the wine industry and policymakers to have more effective decisions on marketing NOLO wines to their consumers	Cross sectional study	637 Australian consumers, age 18+ (mean age of 50, 81.5% were alcohol consumers)	NoLo wine	- Functional value was an important driver of attitudes toward NOLO wines for both drinkers and non-drinkers - Emotional and curiosity-related (epistemic) value influenced attitudes among drinkers, but not non-drinkers - Social and situational factors did not significantly influence attitudes toward NOLO wines. - More positive attitudes toward NOLO wines were associated with higher purchase intentions and willingness to recommend them - Wine knowledge did not affect the relationship between attitudes and purchase or recommendation intentions	- Functional benefits and overall product value are the most important factors shaping consumer attitudes toward NOLO wines - Drinkers may be motivated by emotional experiences and curiosity when considering NOLO wines, whereas these factors appear less important for non-drinkers - The findings extend the theory of consumption values to the NOLO wine context and provide insight into consumer motivations for trying and purchasing these products	- Generalisability - consumer attitudes to NoLo may be different outside the Australian context - Cross-sectional survey-based data - cannot establish causation - COVID-19 could have had implications on the results (of alcoholic consumption) of this study - Low- and no-alcohol wines were not analysed separately
Silczuk et al. ⁶¹ 2025 Poland	To investigate the sociocultural and epidemiological factors associated with NAB consumption in Poland, including motivations for use, consumption context, and its reported impact on alcohol consumption patterns	Cross sectional study	1,114 Polish residents, age 18+ years completed a survey	NoLo beer	- Around one-third used NAB to reduce alcoholic beer intake 23% reported fully replacing alcoholic beer with NAB 37% reported no change in alcohol consumption after initiating NAB use - A small proportion switched back to alcoholic beer only or increased alcohol use - Taste perceptions were generally favourable, with many describing NAB as nearly identical to alcoholic beer or different but enjoyable - Common motivations included driving, hydration and enjoying beer taste without alcohol	- NAB consumption in Poland was associated with identifiable sociodemographic characteristics - Use was motivated by practical and health-related considerations - Nearly half of current users reported reduced or substituted alcohol intake - A substantial proportion incorporated NAB into existing drinking routines without change or with increased alcohol use - Findings indicate heterogeneous behavioural impacts and a need for nuanced public health messaging - Further research is needed on long-term effects of NAB use on alcohol-related outcomes	- Self-reported data may be affected by recall and social desirability bias - Cross-sectional design limits causal inference - Selection bias may have occurred if people more engaged with alcohol-related issues were over-represented

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Vasiljevic et al. ⁶¹ 2018 UK	1) Assess the impact on product appeal of different verbal descriptors denoting lower strength, with and without % ABV, for wine and beer 2) Examine participants' understanding of the labels in terms of communicated alcohol units, calorie content, the drink-driving limit, and appropriateness for the drink to be consumed by children	Experimental	3,390 adults (1,697 wine and 1,693 beer drinkers) aged 18+, who reported drinking alcohol at least once per week	NoLo beer; NoLo wine	• Products with verbal descriptors denoting lower strength (Low and Super Low) had lower appeal than Regular strength products • Appeal decreased as % ABV decreased • Participants' age, gender, ethnicity, SES, risky drinking habits, motivation to reduce consumption, self-licensing, and numeracy levels did not moderate the effects of lower strength verbal descriptors and % ABV on product appeal • Understanding of strength and calorific content was generally high across the various drinks, with the majority of participants correctly identifying or erring on the side of caution when estimating units and calories in a given drink, appropriateness for consumption by children, and drinking within the driving limit	• Products labelled with verbal descriptors denoting lower alcohol content (Low and Super Low) had lower appeal than Regular strength products • Appeal decreased as % ABV decreased, with lowest appeal found for wine with 0% ABV and 4% ABV, and for beer with 1 %ABV and 2 %ABV • Adding % ABV to verbal descriptors denoting lower strength alcohol products increased their low appeal to some extent, particularly for labels combining the verbal descriptor Low with % ABV greater than zero • Participants' demographic and individual difference characteristics did not modify these effects	• Assessed participants' perceptions and not behavioural responses • Some existing alcohol labelling has used similar verbal terms to those used in this study (e.g. low) to refer to reduced calorie content, rather than reduced alcohol content • Policymakers should avoid possible misunderstandings by including terms such as Alcohol (e.g., 'Low Alcohol') or Strength (e.g. 'Low Strength') to explicitly inform consumers that the labelling refers to alcohol strength • Sample bias and limited generalisability: over 70% were over 45 years, over 40% were university educated, and 94% were white

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Vasiljevic et al. ⁸⁰ 2018 UK	Examine consumers' perceptions of strength (% ABV) and appeal of alcohol products using low or high alcohol verbal descriptors	Experimental	1,600 adults (796 wine and 804 beer drinkers) who reported drinking at least once a week from a nationally representative UK panel	NoLo beer; NoLo wine	• Low, Lower, Light, Lighter, and Reduced formed a cluster and were considered lower in strength than Regular (average % ABV), but higher in strength than the cluster consisting of Extra Low, Super Low, Extra Light, and Super Light • Similar clustering in perceived strength was observed in responses to the verbal descriptors denoting higher than Regular alcohol strength • Product appeal: Regular was the most appealing strength descriptor, with the low and high verbal descriptors using intensifiers rated least appealing • The appeal of alcohol products reduced the more the verbal descriptors implied a deviation from Regular • Participants' age, sex, ethnicity, SES, risky drinking habits, and numeracy did not moderate the effects of low or high alcohol verbal descriptors on perceived strength and appeal, except males aged 35–45 years, who perceived different high verbal descriptors in wine as denoting lower alcohol strength	• Verbal descriptors of low/lower strength alcohol wine and beer form clusters and can effectively communicate two categories of strength that are lower than an average-strength product.¹⁷ of 18 verbal descriptors for lower strength products were perceived as denoting products far higher in strength than the legislated cap of 1.2% ABV for low alcohol products • The appeal of alcohol products reduced the more the verbal descriptors implied a deviation from Regular	• Lack of validated scales to measure the primary and secondary outcomes • Self-report measures and social desirability biases • Assessed perceptions and not behavioural responses

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Vasiljevic et al. ⁹³ 2019 UK	To assess what a sample of UK weekly drinkers perceived to be the target groups and occasions for drinking wines and beers labelled with different verbal and numerical descriptors of lower alcohol strength	Experimental	3,390 adult residents from the UK (1,697 wine and 1,693 beer drinkers) randomised to 1 of 18 groups with 1 of 3 levels of verbal descriptors and 6 levels of % ABV	NoLo alcohol products	- Participants perceived products labelled as 0% ABV, Low, or Super Low as being targeted towards pregnant women, sportspeople, and children aged 6-13 years - Products with higher % ABV labels were perceived as targeting adult men and women aged over 18 years - Products labelled as 0% ABV, Low, or Super Low were associated with weekday lunch consumption - Products with higher % ABV were associated with dinner and evening occasions, including parties, holidays, and celebrations	- Lower strength products were seen as targeting non-traditional consumers, including pregnant women - Lower strength products were also associated with non-traditional occasions, including weekday lunchtimes - These perceptions suggest lower strength products may be perceived as extensions to regular-strength alcoholic drinks rather than as substitutes for them	- Use of an online sample may limit generalisability - No behavioural outcome measures were included - It is unclear whether reported perceptions of lower-strength alcohol products reflect actual consumer choice and consumption behaviours
Westmoreland et al. ³⁸ 2026 USA	To determine the prevalence of NoLo use patterns and to describe the use and motivation for use of NoLo products	Cross sectional study	1,464 USA residents aged 21+ completed a 30-min survey, with a subgroup (n = 278, 18.9%) of participants recruited in recovery	NoLo alcohol products	Common motivations were decreasing alcohol consumption, abstaining from drinking and avoiding negative alcohol effects	- NoLo beverages may reduce alcohol consumption among people who could benefit from lower alcohol intake - Further research is needed to examine their public health impact	- Cross-sectional findings do not allow causal conclusions - The sample was skewed towards highly educated participants with health insurance, which may limit generalisability - Participants in recovery were oversampled but recruitment quotas were not met - No- and low-alcohol products were not analysed separately - Some relevant confounders may not have been measured

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Alcohol-related harms and other outcomes (n = 2)							
Rehm et al. ⁹⁵ 2023 Europe	To estimate how reducing alcohol strength could lower consumption and harm across six European countries, determine the tax increases needed to achieve this, and assess the resulting mortality benefits of introducing no- and low-alcohol drinks in the UK and Spain	Modelling study	1) Mortality data - website of the Global Burden of Disease study 2) Adult alcohol per capita consumption data - World Health Organization 3) Distribution of overall alcohol consumed by sex and age - Manthey and colleagues	NoLo alcohol products	- Reduction of alcoholic strength clearly demonstrated public health potential - Depending on the drinking level, the size of the country, sex, and sex-specific structure of the causes of death, between 5.01% and 10.25% of all alcohol-attributable deaths could have been averted in 2019 - For Spain and the UK, the introduction of beer and wine with an alcoholic strength of less than 0.5% led to a small substitution effect, but the uptake of such products by the general population has not been large enough to produce sizable public health effects. The largest effect was seen for men in the UK, where the number of deaths averted per year amounted to 16	- Reducing alcohol strength has substantial potential to save lives and reduce alcohol-related harm - Because industry-led reductions have been limited, taxation and pricing policies may be needed to encourage lower-strength products - Proposed approaches include: a tax based on grams of alcohol and a levy on beers above a specified alcohol-strength threshold (e.g., >3.0% ABV) - Evidence from Australia's Northern Territory suggests such measures may reduce harm, although the specific impact is difficult to isolate because other policies were introduced simultaneously - Governments and organisations (e.g. the EU) should test and evaluate different policy approaches to identify the most effective ways to reduce alcohol strength	- Cultural and contextual differences across the six countries may limit how widely the findings can be applied - Limited population-level evidence is available, with most effects based on beer reformulation and largely driven by a single UK case study - The model may overestimate the tax increases needed to reduce alcohol strength, despite using standard price elasticity estimates - The models relied on dose-response risk estimates from meta-analyses, which may not fully capture the effects of reductions in alcohol consumption and related harms
Bowdring et al. ⁸⁶ 2024 USA	To examine how health providers address NAB (non-alcoholic beverage) use	Qualitative research	Publicly available data from HealthTap, a digital health service that hosts a repository of anonymous patient questions covering a range of topics and responses from US-licensed doctors	ZAPs	- Patient questions on NAB use focussed on liver disease, psychotropic medications and peri- and post-natal consumption - Provider guidance ranged from abstain, moderate and no concern, reflecting uncertainty and risk considerations - Concerns included liver function risks, medication interactions and cue-reactivity, and potential alcohol exposure during pregnancy and breastfeeding	- As the research base develops, providers should be familiar with NAB use health effects across medical conditions to facilitate evidence-based clinical care - Clinical practice governing bodies and public health professionals will also play a crucial role in disseminating knowledge on the potential benefits vs. risks of NABs - There is a need for practice guidelines regarding the use of NABs in various clinical conditions	- HealthTap providers who chose to respond to NAB questions may not be representative of providers at large, and public responses may differ from private clinical encounters. - HealthTap patients may not be representative of the broader population, and their alcohol use history was not assessed - The clinical data likely did not capture all presenting - conditions warranting guidance on NAB use

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SYSTEM, REGULATORY AND POLICY-RELATED ISSUES (n = 6)							
Bathie et al. ³³ 2026 Australia	To explore attitudes to restrictions on ZAPs advertising in public spaces and parental provision of ZAPs to teenagers	Cross sectional study	3,310 Australian adults who completed an online panel survey	ZAPs	• 47% agreed with banning ZAPs advertising near schools, 33% agreed with removing ZAPs advertising from professional sport and 31% with banning ZAPs advertising on public transport • Overall, older age and lower socioeconomic status were associated with small increases in support for advertising restrictions	• Support for ZAPs-related restrictions is lower than for comparable alcohol advertising policies, potentially reflecting limited awareness of ZAPs' role in promoting alcohol brands • There is a need for public education on ZAPs-related risks and specific messaging may be necessary to build support for regulatory interventions aimed at protecting youth	• Small number of actions examined, of a broad possible range that could reduce ZAP-related harms (e.g. where and how ZAPs can be sold) • Sample skewed to mid-high SES individuals (73%), living in metro location (69%)
Bowdring & Prochaska ⁸⁸ 2026 USA	To map out current non-alcoholic beer labelling practices, with a focus on alcohol content, nutritional content, health warnings and age restrictions	Qualitative research	Purchase of 1 non-alcoholic beer from each of the 47 non-alcoholic beer producers for which there was available inventory via an online national distributor (March 2025)	NoLo beer	• Of the 47 labels evaluated, all reported alcohol content using both alcohol by volume and terminology • Among beers from non-alcoholic-only producers, 80% included caloric, carbohydrate, protein and fat content, compared with 60% from dual producers • Less than a quarter of labels included any type of health warning, all from dual producers • Only 5 labels communicated an age restriction, all from dual producers and none made in, or imported to, states with age restrictions	• Variation in non-alcoholic beer labelling highlights inconsistencies that could be addressed by federal regulations • Non-alcoholic-only producers had labels more consistent with soft drink labels • More dual producers included a health warning or age restriction, though this practice was still rare	• Limited to non-alcoholic beers because they make up the largest share of the non-alcoholic market and are under the purview of the Tax and Trade Bureau • Did not code for colours on labels

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Burton et al. ⁸⁷ 2026 8 countries	This study aimed to identify, summarise and compare formal legal frameworks, non-binding government guidance and recognised self-regulatory frameworks for the labelling, taxation, licensing and condition of sale and marketing of No/Lo drinks across a diverse set of countries	Policy analysis	Documents relevant to the governance of No/Lo products, including formal legal frameworks, non-binding government guidance, self-regulatory frameworks, covering labelling, taxation and pricing, licensing and conditions sales, and marketing restrictions. Documents were identified using web searches, snowballing techniques, consultations with subject experts and academic sources	NoLo alcohol products	- Regulatory thresholds (% ABV) that determine when drinks fall under alcohol legislation vary widely both across and within countries, and definitions of No/Lo products are uncommon - Health risk information on labels is inconsistent - Excise tax thresholds based on %ABV vary across countries and sometimes by drink type - Sales of drinks below de fined thresholds generally do not require a premises licence - Minimum legal purchase ages apply only once a drink crosses the jurisdiction's alcohol threshold, although definitions and thresholds vary across countries - Marketing restrictions were generally shaped by those for standard alcoholic drinks, although new self-regulatory guidance has been developed in Australia, the Netherlands and the UK	- Governance of No/Lo drinks is fragmented and inconsistent - Definitions and regulatory thresholds vary across countries and between policy areas within countries, with many current regulations based on legacy definitions of what is an alcoholic drink - Alcohol-free drinks, and to a lesser extent low-alcohol drinks, are often exempt from rules governing standard alcohol, including labelling, taxation, marketing, licensing and conditions of sale - Most regulatory frameworks have not been updated alongside the rise in popularity, availability and marketing of NoLos and are not designed to prevent consequent harms or facilitate benefits	- Some aspects of NoLo governance may have been overlooked, and other restrictions in place may not have been reported, particularly voluntary agreements that do not feature in official legislation or policy documents - Does not assess policy implementation - Did not identify possible loopholes in restrictions - Generalisability to other countries may be limited, as other countries may take different approaches to regulating No/Lo drinks

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Bury et al. ¹⁷ 2023 Australia	To identify how ZAPS (<1.15% ABV) are considered under existing policy measures for alcohol marketing in Western Australia (WA)	Policy analysis	16 policy documents relevant to alcohol marketing in WA (web pages, reports, legislation and codes), including 5 federal, two state government-led regulatory instruments, 8 codes of practice, and the self-regulatory scheme for alcohol advertising	ZAPs	• <i>Policy scope</i>: Inconsistent definitions limit application of alcohol marketing policies, particularly for products <0.5% ABV. Few policies cover production, packaging, or labelling requirements. Unclear whether policies apply to alcohol brand extensions and/or new to world brands • <i>Promotion</i>: Limited guidance on how advertising and broadcasting standards apply to ZAPs, especially standalone brands. Some restrictions on product placement apply to alcohol products and certain brand extensions • <i>Product</i>: No standards for how closely ZAPs can mimic alcoholic products (e.g. ingredients, production methods, taste). Pregnancy warning labels required only for products ≥1.15% ABV. ZAPs <1.15% ABV are regulated as food products and require full nutrition labelling. Alcoholic products >1.15% ABV are generally exempt from nutrition labelling unless making claims • <i>Place</i>: Unclear how online sales regulations apply to ZAPs <0.5% ABV, which can generally be sold to minors, used in public places or while driving • <i>Price</i>: Excise and wine equalisation taxes apply only to products >1.15% ABV. Lower taxation and regulation may make ZAPs more affordable	• In WA, the ways in which alcohol policy measures apply to ZAPs are limited. The current weak systems for managing alcohol marketing do not adequately consider ZAPs, and close attention must be paid to how ZAPs may provide additional marketing opportunities for the alcohol industry. A comprehensive approach to alcohol marketing policy that legislates both alcohol and ZAPs would reduce the risks associated with young people's exposure to alcohol marketing	• Analysis limited to policies relevant to marketing of alcohol products in WA

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Corfe et al. ⁵³ 2020 UK	To examine the potential impact of NoLo drinks consumption on the level of alcohol-related harms in the UK	Mixed-methods research	Desk research for market data (e.g. Nielsen) and for the regulatory landscape research question	NoLo alcohol products	• Limited policy attention to NoLo drinks – lacking a comprehensive framework covering production, marketing, or public health • Marketing and advertising of NoLo products are subject to minimal regulation • Labelling and product descriptors are generally guided by voluntary standards rather than legislation • UK definitions of ‘low-strength’ and ‘alcohol-free’ products are stricter than in some countries, with alcohol-free products limited to 0.05% ABV compared with up to 0.5% ABV in countries such as Germany and Belgium • Some countries restrict marketing of NoLo products that closely resemble alcohol brands to reduce the risk of alibi marketing	• NoLo policy remains underdeveloped, with unclear definitions, limited risk labelling and weak marketing controls	• Findings may have limited generalisability outside the UK due to differences in policy and regulatory contexts

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Rehm et al. ⁹⁵ 2023 6 European countries	To estimate how reducing alcohol strength could lower consumption and harm across 6 European countries, determine the tax increases needed to achieve this, and assess the resulting mortality benefits of introducing no- and low-alcohol drinks in the UK and Spain	Modelling study	1) Mortality data - website of the Global Burden of Disease study 2) Adult alcohol per capita consumption data - World Health Organization 3) Distribution of overall alcohol consumed by sex and age - Manthey and colleagues	NoLo alcohol products	The increase of excise taxation to achieve the public health gains resulting from a 10% reduction in alcoholic beverage strength would result in markedly increasing prices, a situation unlikely to be implemented in Europe, where alcohol has traditionally been very affordable and where adjustments for inflation have rarely been made	- Reducing alcohol strength has substantial potential to save lives and reduce alcohol-related harm - Because industry-led reductions have been limited, taxation and pricing policies may be needed to encourage lower-strength products - Proposed approaches include: a tax based on grams of alcohol and a levy on beers above a specified alcohol-strength threshold (e.g. >3.0% ABV) - Governments and organisations (e.g. the EU) should test and evaluate different policy approaches to identify the most effective ways to reduce alcohol strength	- Cultural and contextual differences across the six countries may limit generalisability - Limited population-level evidence available, with most effects based on beer reformulation and largely driven a UK case study - The model may overestimate the tax increases needed to reduce alcohol strength, despite using standard price elasticity estimates - The models relied on dose-response risk estimates from meta-analyses, which may not fully capture the effects of reductions in alcohol consumption and related harms

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