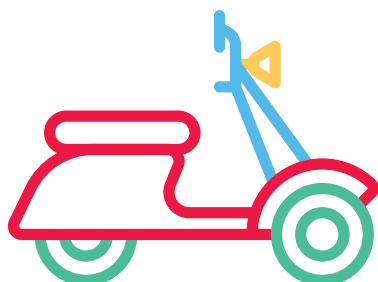


A rapid review of the evidence

Online sales and home delivery of 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
Abbreviations and definitions	4
Summary of findings	5
1. Introduction	6
1.1 Background	6
1.2 Purpose	6
1.3 Research question	7
2. Methods	7
2.1 Eligibility criteria	7
2.2 Search strategy	7
2.3 Screening and selection	7
2.4 Data extraction, critical appraisal and evidence synthesis	7
3. Results	8
3.1 Search results and screening	8
3.2 Characteristics of included studies	9
4. Evidence statement/findings	10
4.1 Alcohol use	10
4.2 Alcohol-related harms and alcohol delivery	11
4.3 Risk of underage alcohol access via alcohol delivery	11
4.4 Alcohol use and alcohol delivery use during COVID-19 pandemic	12
5. Discussion	13
6. Conclusion	16
Appendices	17
References	28

Declarations

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

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About the Alcohol and Drug Foundation

The [Alcohol and Drug Foundation \(ADF\)](https://www.adf.org.au) is Australia's leading organisation committed to inspiring positive change and delivering evidence-based approaches to minimise alcohol and AOD harm. As an evidence-based organisation, the ADF has a key strategic focus on 'knowing what works' and aims to build the knowledge base and understanding of effective AOD harm minimisation policies and programs. The ADF also advocates for strong and healthy communities.

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Lead – evidence review planning, coordination and delivery, research question and search strategy development, review methodology, results screening and analysis, critical appraisal of results, provision of team support and guidance, report development.

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Abbreviations and definitions

Abbreviation or term	
ADF	Alcohol and Drug Foundation.
Alcohol-related harms	Negative health, social, and criminal outcomes attributable to alcohol use, including violence, injury, hospitalisations, road traffic incidents, and gender-based family violence.
Alcohol use	The intake of ethanol-containing beverages, commonly measured by volume, frequency and patterns of intake over time (e.g. past week, past month, past year) and during specific drinking occasions, including episodic and regular use.
AOD	Alcohol and other drugs.
aOR (Adjusted Odds Ratio)	An odds ratio that accounts for the influence of other variables, estimating the independent effect of the exposure on the outcome.
AUDIT (Alcohol Use Disorders Identification Test)	A validated, widely used tool to screen for high-risk drinking behaviours in both clinical and research settings.
Autonomous alcohol delivery	Services that deliver alcohol without a human present, such as driverless vehicles (like vans and shuttles), drones or robots.
Gender-based family violence (GBFV)	Gender-based family violence, a broad concept which is intended to incorporate intimate partner violence (IPV), family and domestic violence (FDV) and child maltreatment.
Generic alcohol delivery	Alcohol delivery as a general service – with no specificity to the speed of delivery.
HED (Heavy episodic drinking)	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 use that significantly increase the risk of harmful consequences for the person's health and wellbeing. Can be assessed using the AUDIT scale.
IRR (Incidence Rate Ratio)	A measure that compares the rate at which new events occur in two different groups, calculated as the incidence rate of the exposed (or primary) group divided by the incidence rate of the unexposed (or comparison) group.
NZ	New Zealand.
Off-premise outlets	Retail business licensed to sell packaged liquor intended for consumption elsewhere (e.g. bottle shops, supermarkets, convenience stores, petrol stations).

On-premise outlets	Retail business licensed to sell alcoholic beverages intended for consumption on-site (e.g. bars, nightclubs, restaurants).
OR (Odds Ratio)	A measure of association that compares the odds of an outcome in an exposed group to the odds in an unexposed group.
Packaged liquor	Alcohol available for sale at off-premise outlets like bottle shops, grocery stores and convenience stores that must be taken-away and consumed elsewhere.
PICOT	Population/Patient, Intervention, Comparison/Control, Outcome, Time.
Rapid alcohol delivery	Alcohol delivered within 2 hours of order (also referred to as 'on-demand' in some studies).
Same day alcohol delivery	Alcohol delivered within 1 day of order.
Standard alcohol delivery	Alcohol delivered greater than 1 day of order.
Specialised fast delivery	Services that focus on online or app-based ordering and delivery of food and/or alcohol, that may operate in partnership or independently of licensed operators.
UK	United Kingdom.
USA	United States of America.

Summary of findings

Background

Alcohol home delivery services have expanded rapidly, raising concerns about their impact on alcohol use and related harms. A rapid systematic review was undertaken to examine the relationship between alcohol home delivery services and alcohol use patterns, related harms and regulatory compliance across Australia and comparable jurisdictions.

Methods

A systematic search was conducted across four databases, which resulted in 21 included studies, including 13 cross-sectional and two longitudinal investigations. All studies were reviewed, with data extracted using Covidence and formal appraisal of study quality carried out using JBI quality assessment tools.

Findings

Use of alcohol delivery services was consistently associated with higher overall alcohol consumption, as well as greater likelihood of heavy episodic and high-risk drinking compared to people who did not use alcohol delivery services. Rapid delivery services were linked to extending a drinking session and receiving deliveries while intoxicated, with many users reporting they would have stopped drinking if this form of delivery had not been available. Compliance with age verification requirements was often poor, with 20% to 93% of deliveries occurring without ID checks. Unattended deliveries were also a feature in some studies. Limited research explored alcohol-related harms; one study associated extended availability of delivery by one hour with increased domestic violence assaults, while other studies noted greater negative consequences among delivery users. During the COVID-19 pandemic, alcohol delivery use rose substantially and was associated with heavier drinking patterns.

Conclusion

These findings, highlight how alcohol delivery services, especially rapid delivery, may increase use and undermine existing public health protections. Evidence suggests that strengthening regulatory measures, such as robust age and intoxication verification, limits on delivery hours, and controls on targeted marketing could have harm minimisation benefits in an evolving alcohol retail environment.

1. Introduction

1.1. Background

Alcohol delivery services typically operate under three distinct models: *standard delivery*, where alcohol is delivered within a day or several business days, often through postal or courier services; *same-day delivery*, which guarantees delivery within the same calendar day; and *rapid delivery* also known as on-demand delivery, which enables alcohol to be delivered within one to two hours of ordering, often in the evening.

In the past decade, access to alcohol has shifted substantially due to the growth of 'on-demand' delivery services. Enabled by apps and websites, these services centralise ordering, payment and delivery for consumers.¹ Access to these services accelerated during the COVID-19 pandemic where two thirds (69%) of 77 English-speaking jurisdictions relaxed restrictions on home alcohol delivery, with 13 jurisdictions making these permanent.² These changes reflect a significant shift in the physical and temporal availability of alcohol - a key determinant of use and related harms as described by availability theory.³

The growth of alcohol delivery poses challenges to the enforcement of alcohol regulations, particularly around requirements for age verification and restrictions on supplying alcohol to intoxicated persons.¹ A content analysis of 65 high-traffic Australian alcohol delivery websites found three-quarters of retailers were willing to leave alcohol unattended at delivery locations.⁴ In most OECD English-speaking countries, age verification is required at the point of delivery;² however, deliveries are often outsourced to third-party providers or gig economy drivers who may not be trained or held accountable for regulatory compliance. Relatively few jurisdictions, however, have age verification requirements at the time of purchase.²

These home delivery services also serve as digital platforms for the retailer's promotion of discounted alcohol, often employing pricing incentives and persuasive marketing techniques.⁴ One study found 82% of Australian websites promoted bulk-buy discounts, while 89% encouraged consumers to sign up for promotional emails to receive discounts.⁴ Another analysis of 100 online alcohol retailers reported that 50% offered free or discounted delivery when purchasing over a set threshold.⁵

Evidence from Australia, New Zealand (NZ), England and Scotland suggests that high-risk drinkers are more likely to consume alcohol in off-premise settings, like the home environment.⁶ In-home drinking poses risks to others in the household; for example, alcohol-involved assaults in the home often occur late at night. Notably, alcohol delivery is currently permitted until 11pm in five of eight Australian jurisdictions.

The rise of alcohol delivery services has transformed how alcohol is accessed, extending availability into homes and late-night hours, often with minimal regulatory oversight. Evidence suggests these shifts raise concerns about increased use and alcohol-related harms.

To date, a systematic review has examined alcohol delivery policies across OECD countries,² and a scoping review explored the public health impacts of food and alcohol delivery in literature published up to 2022.¹ However, evidence on the harms specifically associated with alcohol delivery remains fragmented in the Australian context.

A comprehensive synthesis of evidence from Australia and comparable jurisdictions examining the relationship between alcohol delivery services and alcohol-related harms - including research conducted since the COVID-19 pandemic - could provide critical insights to inform policy responses.

1.2. Purpose

This review aims to synthesise the available evidence on the relationship between alcohol delivery services and alcohol-related harms.

It also seeks to examine studies assessing compliance with alcohol regulations to better understand risks of access by minors and intoxicated individuals.

1.3. Research question

The research question for the review was developed collaboratively by the authors, using the PICOT (patient, intervention, comparison, outcome, and time) framework, guided by the aims and purpose of the review, and reviewed by external experts.

The main research question for this review was: *‘In Australia and comparable jurisdictions in which individuals can access online home delivery of packaged liquor, what is the relationship between home delivery and alcohol use and related harms?’*

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.⁷ The PRISMA guidelines for systematic reviews were used to inform the structure of this report.⁸

2.1. Eligibility criteria

The search was limited to studies published from 2019 onwards, available in English and with original data. Studies were excluded if they:

- were opinion or commentary pieces, editorials, essays, book chapters, conference abstracts or theses
- addressed the general topic but did not align with the research question
- were published in countries other than Australia, NZ, the United States (USA), Canada, the United Kingdom (UK) and Ireland.

2.2. Search strategy

Search terms and synonyms were developed by the authors and reviewed by external experts and key staff. Key search terms included ‘alcohol delivery’ and ‘harms.’ Strings were tested using several seed articles, revised, and finalised by the Librarian and applied across the ADF Library (specialist AOD library), Google Scholar and PubMed Central for peer-reviewed literature, and Google for grey literature.

2.3. Screening and selection

Searches were completed in July 2025 by the Librarian, with the first 100 relevant results from each search string assessed according to the search strategy, duplicates removed, and all eligible publications saved and imported to [Covidence](#) for abstract and full text review. All abstracts were single screened by one reviewer (NB), with 20% of full texts dual screened by two of the authors (NB and LR). In addition, hand searching of references was conducted for papers that addressed the general topic but did not align with the research question. Any full text papers that were identified as ineligible for inclusion were discussed between reviewers to reach consensus.

2.4. Data extraction, critical appraisal and evidence synthesis

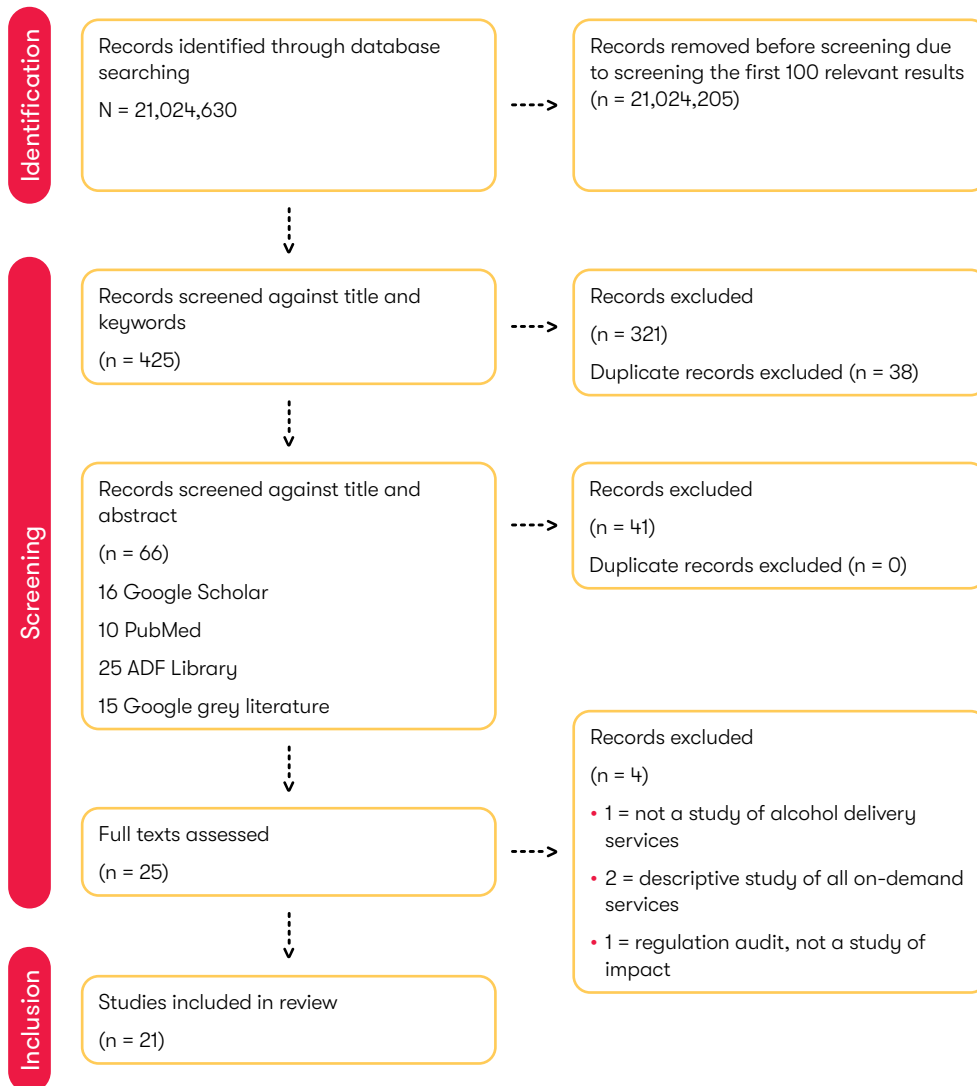
Data extraction fields were developed and tested in Covidence, tailored to the included study designs and the research question. Critical appraisal was conducted using Joanna Briggs Institute (JBI) checklists for cross-sectional, cohort, qualitative and quasi-experimental studies.⁹ One reviewer (NB) completed data extraction and critical appraisal for all included studies, with a second reviewer (LR) independently assessing 20% of records for consistency. Discrepancies were resolved through discussion between the two reviewers. All identified studies, irrespective of critical appraisal outcomes, were included in the evidence synthesis. Results from the qualitative evidence synthesis were exported from Covidence, cleaned in Excel and organised into tables by the lead author. A narrative synthesis of the findings was then conducted.

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: results screening



3.2. Characteristics of included studies

Twenty-one studies were considered eligible for inclusion in the review.

3.2.1 Data source location

Of the 21 included studies, 10 (48%) were from Australia, seven (33%) from the USA, two (10%) from NZ, and one each (5%) from Canada and the UK.

3.2.2 Study design and literature type

Of the 21 included studies, the majority (n = 12, 57%) used a cross-sectional design. The remaining studies were qualitative (n = 3, 14%), cohort or longitudinal (n = 2, 10%), mixed methods (n = 1, 5%), and quasi-experimental (n = 1, 5%). Seventeen studies (81%) were peer-reviewed, while four (19%) were sourced from grey literature.

3.2.3 Publication year

Papers were published across dates spanning 2019 to 2025, with most published in 2024 (n = 7, 33%), followed by 2022 (n = 6, 29%). The included studies were almost evenly split between those conducted during the COVID-19 pandemic (n = 9, 43%) versus after the pandemic (n = 10, 48%). Only two studies (n = 10%) were published prior to the pandemic.

3.2.4 Research focus and type of alcohol delivery service examined

Two-thirds of included studies (n = 14, 66%) examined the relationship between alcohol delivery and drinking behaviour or related negative consequences. Only one study focused on the relationship between alcohol delivery and a specific alcohol-related harm - gender-based family violence (GBFV). Three studies (14%) investigated compliance with regulations through mystery shopping studies. Two studies (10%) explored community and stakeholder perceptions of future delivery models, and one study (n = 5%) explored reasons for using alcohol delivery services.

3.2.5 Quality of studies

Overall, the included studies varied in methodological quality but generally demonstrated sound design and valid outcome measurement. For a summary of the results from the formal critical appraisal, see Tables 1 – 4 in Appendix 1 on pages 17 – 19. Most cross-sectional studies had clearly defined inclusion criteria, described participants and settings, and measured exposures and outcomes reliably. However, confounding factors were not always identified or addressed, and a small number of studies lacked clarity or rigour in certain domains, such as statistical analysis.

Qualitative studies were generally strong in representing participants' perspectives and ensuring congruity between research design, methods, and analysis, although some failed to address researcher positioning or reflexivity.

The two cohort / longitudinal studies assessed showed strong identification and management of confounders, valid exposure measurement, and adequate follow-up, although one had unclear outcome measurement and statistical analysis.

The single quasi-experimental study demonstrated a clear causal sequence, reliable measurement, and appropriate statistical analysis, but lacked a control group, limiting causal inference.

4. Evidence statement/findings

4.1. Alcohol use

Thirteen cross-sectional studies investigated the relationship between alcohol delivery and alcohol consumption.^{10, 11, 13-22} In addition, two cohort or longitudinal studies examined this relationship over time.^{23, 24} For a summary of findings see Tables 5-6 in Appendix 2 on pages 20-27.

4.1.1 Alcohol use - comparison by use of delivery service

Seven studies were identified, which were conducted in the USA,^{17, 20, 21, 24} NZ,¹⁵ Australia²³ and Canada.²² Comparisons between individuals who used alcohol delivery services and those who did not consistently demonstrated an association between alcohol delivery services and heavier alcohol use, high-risk drinking or heavy episodic drinking.

Among the cross-sectional studies conducted in the USA, use of home delivery was associated with drinking four or more drinks a week and a 33% increased rate of binge drinking days per month (quantified as drinking more than 4 drinks for females and more than 5 drinks for males in a single occasion);¹⁷ and drinking at high-risk levels, as measured via the Alcohol Use Disorders Identification Test (AUDIT).²⁰

Five studies (two from the USA and one each from NZ, Australia and Canada) compared alcohol use between those who did or did not use home delivery during the COVID-19 pandemic^{15, 21-24} and are discussed separately in a broader findings section on the pandemic in Section 4.4.

4.1.2 Alcohol use - within jurisdictions where alcohol delivery is available

One cross-sectional study found the relationship between alcohol delivery and risky drinking held even when assessed at the policy level (i.e. availability of alcohol delivery within a jurisdiction), rather than the individual level of service use. In a sample of 12-24 year olds from the USA, people were twice as likely to engage in heavy episodic drinking if living in a state where alcohol delivery was available from off-premise outlets, than those who lived elsewhere.¹⁸

4.1.3 Alcohol use - among those who prefer rapid alcohol delivery services

The association between heavy drinking and alcohol delivery use was also observed in three Australian cross-sectional studies that specifically examined rapid alcohol delivery.^{11, 13, 14}

In a 2023 study, those who usually used fast delivery had 70% higher odds of drinking at harmful levels (as measured via the AUDIT).¹³ Similarly, a 2019 study reported that people who used rapid delivery frequently engaged in heavy episodic drinking, with 69% consuming five or more standard drinks in the same ordering occasion.¹⁴ Notably, 28% of those whose most recent order was delivered within 2 hours reported drinking 11 or more drinks on that occasion, compared with 10% of those whose order took longer than 2 hours to arrive. Finally, a 2024 study found that high-risk drinkers' most recent order was significantly more likely to be a same day delivery, compared to low-risk drinkers.¹¹ The analysis however didn't specify the proportion of same day deliveries that were delivered within 2 hours or less.

4.1.4 Alcohol use - high-risk drinkers vs low-risk drinkers who use alcohol delivery services

Two papers reported on findings from an Australian cross-sectional study which compared the patterns of high-risk to low-risk drinkers within their sample.^{10, 11} The 2022 online survey of Western Australian (WA) residents found that high-risk drinkers used delivery services more often and ordered alcohol in greater quantities compared to low-risk drinkers.¹⁰

4.1.5 Alcohol use - if autonomous forms of alcohol delivery were available

The results of two studies (one qualitative,²⁵ and the second employing mixed methods²⁶) that explored the potential implications of introducing autonomous alcohol delivery services in Australia suggest that this form of delivery could lead to increased alcohol use. Both community and expert stakeholders shared

the view that automated alcohol deliveries would be perceived as highly convenient and likely to gain popularity.^{25, 26} Around one-third (37%) of respondents in the community survey indicated an intention to use automated alcohol delivery services and almost half (47%) expected an increase in overall alcohol use in the community. The most cited reasons for this expectation included reduced concerns about drink driving (as individuals would no longer need to stop drinking to drive home), greater convenience and faster delivery times than existing alcohol delivery models.²⁶

4.1.6 Extended drinking (including when already intoxicated) – among those who use alcohol delivery services

Evidence across four Australian cross-sectional studies found 20–40% of respondents used alcohol delivery to extend a drinking session, with 25–45% indicating they would have stopped drinking if rapid delivery (delivery within two hours) had not been available.^{10, 11, 13, 14}

In a large Australian sample of 1,158 people who had used alcohol delivery in the past three months, people drinking at harmful levels had over six times the odds of having ever used a delivery service to extend a drinking session (OR = 6.26).¹³ One in five participants used alcohol delivery to extend a home drinking session, with 40% indicating they would have stopped drinking if the service was not available.

In WA, 24% of 499 survey respondents who had used alcohol delivery in the past six months had alcohol delivered while intoxicated and 75% of these never or only sometimes refused delivery.¹⁰ One in four (25%) respondents would have stopped drinking if a delivery option hadn't been available.¹⁰

In addition, people who primarily used rapid delivery were significantly more likely to be sometimes intoxicated when receiving orders.¹⁰ Using the same sample, a separate analysis found that high-risk drinkers were more likely than low-risk drinkers to receive orders while intoxicated (49% compared to 9%) and use a service to continue a drinking session (40% compared to 9%).¹¹

In another Australian study, a third (28%) of those who used a fast delivery service in the past month reported that it allowed them to continue drinking when they otherwise would have had to stop.¹⁴ One in five (22%) respondents reported that they ordered fast delivery because they were over the blood alcohol limit to drive.¹⁴ Finally, in a qualitative study with 40 Australian adults, people who regularly used alcohol delivery described the service as a 'double-edged sword' – convenient and time saving, but also encouraging unplanned purchasing and higher alcohol use.²⁷

4.2. Alcohol-related harms and alcohol delivery

An Australian quasi-experimental study examined the impact of a one-hour extension in NSW in 2016 to trading hours for the sale of takeaway and home delivered alcohol on domestic violence (DV).²⁸ It found an increase of 0.5% per month in the rate of late-night DV assaults (between 10pm and 2am) in the 38 months following policy change, resulting in an additional 1,120 cases. For all DV assaults, there was an increasing trend of 0.4% per month, partially offset by an initial drop in level of assault rate after the policy was introduced. The study's findings are limited however, because it's unclear whether the effect was driven by changes in takeaway bottle shop hours, delivery services hours or a combination of both.

In the only other included study that examined alcohol-related harms, an USA cross-sectional study of 5,260 adults reported use of home delivery services was associated with more negative alcohol-related consequences, as measured via the 17-item Short Inventory of Problems–Revised. This questionnaire assessed five domains including social responsibility (e.g. work and financial issues), interpersonal (e.g. relationship or social conflict), impulse control (impulsive or risky behaviours), physical (health and appearance) and intrapersonal issues (e.g. guilt, shame).¹⁷

4.3. Risk of underage alcohol access via alcohol delivery

Three studies employed mystery shopper study methodologies to assess compliance with age verification requirements for alcohol deliveries, using research assistants aged between 18 and 25.^{12, 29, 30} In addition, three cross-sectional surveys provided retrospective data on whether people who have used alcohol

delivery have had their ID checked.^{10, 13, 14} In summary, studies investigating the risk of minors' access to alcohol through poor compliance with age verification regulations reported mixed results, with the frequency of no ID checks ranging from 12% to 93% across different jurisdictions.^{10, 12-14, 29, 30}

Of the mystery shopper studies, a 2024 Australian study found approximately one in five orders placed by research assistants were delivered without any request for identification, with same-day deliveries demonstrating lower compliance than rapid deliveries.¹² A NZ mystery shopper study conducted in the same year reported a similar trend, with 48% of orders via rapid delivery not requiring age verification, whereas 93% of standard orders were delivered without age verification.²⁹ In contrast, an UK mystery shopper study focusing on retailers of rapid alcohol delivery found markedly poor compliance, with 72% of orders delivered without a request to verify the recipient's age.³⁰

Looking to cross-sectional data, in WA 50% of survey participants who had ordered alcohol delivery in the past three months had not had their identification checked.¹⁰ In a national Australian sample, more than one-third of survey respondents aged 25 and under (36%) reported that they did not have their identification checked.¹⁴ In the USA, 12% of 18-25 year olds reported never having their ID checked when using alcohol delivery services.²⁰ Finally, in Australia people over 25 were significantly more likely to never have had their ID verified when buying alcohol via home delivery compared to when buying alcohol in person at bottle shops.¹³

The studies also reported problems with delivery drivers ensuring deliveries were attended by the recipient. Though two mystery shopper studies from Australia and the UK reported very high compliance with this requirement,^{12, 30} in a NZ mystery shopper study, 49% of 45 test orders were left unattended.²⁹ Within the cross-sectional survey studies, one Australian study reported that of the 12% of respondents who reported having no ID check carried out, 24% had the order left unattended or accepted by someone else.¹⁴

4.4. Alcohol consumption and alcohol delivery use during COVID-19 pandemic

Eight studies specifically looked at alcohol delivery use and alcohol use patterns during the pandemic in cross-sectional and longitudinal studies from Australia, NZ, the USA and Canada.^{13, 15, 16, 19, 21-24}

Across these countries, use of alcohol home delivery services increased and was consistently associated with heavier drinking patterns and increased alcohol use compared to non-users.

Within a sample of 586 adults from NSW in a longitudinal survey, alcohol home delivery use rose from 20% to 34% during lockdown then reduced back to baseline levels of 18.5%.²³ People who used alcohol home delivery consumed significantly more alcohol than those who didn't. Alcohol delivery was also higher during lockdown and partial re-opening among people who drank more heavily. In a cross-sectional study of 1,158 Australian adults, 28% had never purchased alcohol online prior to the pandemic, and among those who had, 44% increased their use.¹³

In a NZ cross-sectional study of 2,173 adults, people who used alcohol delivery services during pandemic restrictions had 75% higher odds of being a heavier drinker than those who didn't.¹⁵ Almost one in five ordered alcohol online for first time during the pandemic, with more males (23% vs 14% females) purchasing alcohol to extend a drinking session.

In a cross-sectional study of 1,126 adults from 18 Northeast USA states, obtaining alcohol through home delivery was associated with higher drinking during the pandemic, alongside higher pre-pandemic drinking and having mid-range household income.²¹ In another USA cross-sectional study of 832 adults, those who used home delivery were almost twice as likely to drink heavily (more than four drinks for females and five drinks for males in a single occasion) compared to those who did not use home delivery.¹⁹ In a cross-sectional study of 1,000 adult Canadians, people who used alcohol delivery services were about twice as likely to report drinking more during the pandemic.²² This relationship was also demonstrated over time in a USA cohort study with 1,150 adults, where use of home delivery was associated with higher overall alcohol use, particularly wine.²⁴

Finally, one large USA cross-sectional study of 11,314 adults with diverse sexual and gender identities examined if alcohol-related policies during the pandemic were associated with alcohol use outcomes by sexual and gender identities.¹⁶ It found off-premise alcohol home delivery policies during the pandemic were associated with greater alcohol use for lesbian, gay, bisexual, queer, questioning (LGBQ) respondents and reduced use for trans, nonbinary, genderqueer and gender questioning (T/NB/GQ) respondents. The authors suggested that use of alcohol home delivery may have been too costly for T/NB/GQ participants, who are more likely to have reduced income as a result of stigma and discrimination.

5. Discussion

The aim of this review was to systematically examine the relationship between home delivery and alcohol use and related harms in Australia and comparable jurisdictions. We found 21 studies investigating these relationships across three domains: alcohol use patterns, alcohol-related harms, and underage access resulting from poor compliance with regulatory requirements.

The findings from this review consistently demonstrate an association between alcohol delivery services and increased use, with Australian findings broadly consistent with international research from the USA, Canada and NZ. Across the reviewed studies, individuals who used alcohol delivery tended to consume larger quantities of alcohol and be more likely to engage in heavy episodic drinking and drink at harmful levels than those who did not use these services.^{15, 17, 20-24} These patterns were evident both in cross-sectional and longitudinal studies, examining individual-level use. Studies using an aggregate measure of alcohol delivery via its availability within a jurisdiction also found associations with increased alcohol use, suggesting that increased availability itself may contribute to riskier use.¹⁸

The evidence suggests that alcohol delivery may facilitate greater alcohol availability by enhancing convenience and reducing barriers such as the need to travel to outlets within trading hours.^{14, 27} The availability of rapid delivery within two hours of placing an order may amplify these risks.

High-risk drinkers used rapid delivery more often, ordered in larger quantities and were more likely to extend drinking sessions, including while already intoxicated.^{10, 11, 13, 14} In Australian studies, between one- and two-fifths of survey respondents across reviewed studies reported using delivery to prolong a drinking session and between a quarter and two-fifths indicated they would have stopped drinking if rapid delivery had not been available.^{10, 11, 13, 14} Compared with international evidence, the Australian literature provided more detailed insights into these mechanisms, with several studies highlighting how rapid delivery contributed to extended drinking and intoxicated use, while also documenting high rates of regulatory non-compliance.^{12, 14} In contrast, international research more often focused on overall use patterns or ID verification,^{17, 20, 21, 24, 20, 29} with less emphasis on delivery speed and drinking contexts.

Across studies, compliance with age verification requirements was inconsistent, with the proportion of orders delivered without ID checking ranging from 12% to 93% depending on jurisdiction, delivery speed and study design.^{10, 12-14, 29, 30} Mystery shopper and survey data indicated that same-day deliveries often had lower compliance rates and that unattended deliveries were not uncommon. Younger recipients were not the only age group affected, with people over 25 frequently able to receive alcohol without age verification in one study.¹³ The findings highlight gaps in the enforcement of regulations, suggesting that home delivery can create opportunities for minors and intoxicated individuals to access alcohol with fewer safeguards than traditional in-store sales.

In two studies,^{25, 26} potential introduction of autonomous alcohol delivery raised further concerns about ease of access and reduced barriers, with both community members and stakeholders expecting increased alcohol use if this method of service becomes available.

Evidence of alcohol-related harms linked to delivery remain less well-studied. One natural experiment suggested that extending takeaway and delivery hours by one hour was associated with an increase in domestic violence assaults, although the contribution of delivery hours versus outlet trading hours remains

unclear.²⁸ Similarly, negative consequences across various domains, including social, interpersonal, and physical, were more common among home delivery users in another study.¹⁷

During the COVID-19 pandemic, delivery use increased across Australia, NZ, the USA, and Canada, and was consistently associated with heavier drinking.^{13, 15, 16, 19, 21-24} Some survey respondents ordered alcohol online for the first time, and high-risk use patterns were more prevalent among those who used delivery services. While delivery use declined post-lockdown in one study,²³ in another study interviewees noted that the temporary relaxation of regulations during the pandemic likely normalised home delivery as a purchasing option, with potential long-term implications for use patterns.²⁷

5.1. Comparison with other literature

This review is the first known to comprehensively examine the harms associated with alcohol delivery. Nonetheless, the findings can be compared with several other published reviews.

Firstly, the findings align with a previous scoping review that examined the public health impacts of rapid food and alcohol delivery.¹ The authors of that review concluded that increased access to alcohol via rapid delivery may result in increased alcohol-related harms, particularly underage and heavy episodic drinking. The authors determined that increased harms were facilitated by direct and indirect subversion of regulations, including poor age verification processes and lack of liability for third-party delivery services.¹ Similarly, the findings also align with an exploratory analysis of UK dark kitchens delivering food, alcohol and tobacco which concluded that such services can undermine alcohol licensing policies.³¹

The findings of this review are also consistent with several systematic reviews that have examined the impacts of increased alcohol availability, such as extended trading hours at takeaway outlets.³²⁻³⁵

According to availability theory, greater physical and temporal access to alcohol can lower barriers to use and increase the likelihood of higher use and related harms.³ Alcohol delivery services represent a modern extension of availability that was previously limited to off-premise or on-premise outlets. The capacity of rapid and same-day delivery to supply alcohol direct to the home with minimal delay or oversight expands both temporal and spatial availability, enabling unplanned drinking and reducing natural stopping points.

The findings from this review also extend those found in a systematic review of three mystery shopper studies that found poor compliance with age verification requirements.²

Finally, although research on alcohol-related harms remains limited, the findings align with documented deaths in NSW and Victoria where the cause was directly attributed to the use of large quantities of alcohol accessed through home delivery.^{36, 37} For the case in Victoria, the Victorian Coroner's investigation highlighted concerns including inadequate ID checks and the risk of enabling prolonged drinking sessions, that are consistent with those found in this review.

5.2. Coronial findings and regulatory system gaps

Following the above-mentioned case, the Victorian State Coroner called for urgent reform to home delivery regulations drawing attention to major gaps in current policy.³⁶

The evidence suggests current systems lack robust age verification at both the point of sale and delivery, intoxication checks, or limits on delivery times, allowing high-risk drinkers to access alcohol easily and repeatedly.

In parallel, targeted marketing practices have expanded, including digital advertising that can directly reach individuals via their electronic devices at specific times of day when they are likely to contemplate drinking, using data from their purchase history and social media activity.³⁸ The findings raise concerns that marketing can be strategically directed towards heavy or high-risk drinking groups that are most vulnerable to harm, particularly when combined with the immediacy of on-demand delivery.

Combined with targeted marketing, these findings reinforce the need for regulatory responses that address both the supply and promotion of alcohol delivery.

The evidence suggests potential measures include mandatory delay periods between order and delivery, restrictions on late-night delivery, stronger identity and intoxication verification processes, and tighter controls on digital marketing. Without such measures, the evidence points to the potential for alcohol delivery to undermine public health protections achieved through regulations on physical outlets.

5.3. Strengths and limitations

This review had several strengths. Firstly, a comprehensive search strategy was used that included grey literature which yielded several relevant studies. Secondly, the search included studies from English-speaking OECD countries, which enabled us to include a wide array from comparable jurisdictions to Australia. Thirdly, the review incorporated multiple study designs, including cross-sectional, longitudinal, quasi-experimental, and qualitative studies, allowing for triangulation of findings and a richer understanding of alcohol delivery and use. Fourthly, the review went beyond use patterns to examine alcohol-related harms and regulatory compliance, increasing its relevance for policy and practice. Finally, critical appraisal of study quality was carried out formally using existing validated tools, appropriate to the study designs.

The findings should be considered in light of several limitations. Firstly, as only searched four electronic databases were searched it is possible that additional relevant studies were not identified. Secondly, disentangling the specific impacts of different delivery modalities (e.g. rapid versus same-day delivery) and isolating delivery effects from broader changes in trading hours or pandemic-related shifts was challenging. While this review draws on a range of study designs, variability in methodological quality limits the strength of conclusions. Most studies measured exposures and outcomes well, but incomplete control for confounding and unclear statistical reporting in some cases reduced confidence in effect size estimates. Many relied on convenience or web panel samples, often skewed toward heavier drinkers, higher-income or metro-based populations, with small subgroup sizes or high attrition in longitudinal studies. Recall bias was a potential issue in self-reported measures, with short measurement windows like past week substance use which may not have captured typical behaviours. Additionally, several studies did not specify the type or speed of alcohol delivery used. Just under half of included studies were conducted during the COVID-19 pandemic, although patterns observed in post-pandemic studies were broadly consistent. Finally, the lack of high-quality longitudinal or quasi-experimental research limits causal inference. Still, consistent patterns across study types support the plausibility of the link between alcohol delivery and risky drinking behaviours.

5.4. Future research directions

The lack of studies on alcohol-related harms beyond domestic violence and general negative consequences highlights a need for more comprehensive examinations of the harms linked directly to delivery services.

The evidence suggests future research should prioritise longitudinal designs that can further explore mechanisms by which delivery services influence drinking behaviours.

The research also highlights the value of evaluating the impact of policy interventions targeting delivery, such as stricter age verification or limits on delivery hours.

6. Conclusion

In conclusion, this rapid systematic review suggests that the growing availability and use of alcohol delivery services is associated with heavier and more harmful drinking patterns. By effectively increasing the ease and immediacy with which alcohol can be obtained, delivery services can contribute to extended drinking sessions, heavier use, underage access and elevated risks of alcohol-related harms.

Appendices

Appendix 1: Quality appraisal assessments

Table 1: Summaries of JBI quality appraisal assessments – cross-sectional study quality assessment

[illegible]

Table 2: Summaries of JBI quality appraisal assessments – qualitative study quality assessment

Item	Colbert et al, 2024	Pettigrew et al, 2023	Pettigrew et al, 2024
1 - Is there congruity between the stated philosophical perspective and the research methodology?	Yes	Yes	Yes
2 - Is there congruity between the research methodology and the research question or objectives?	Yes	Yes	Yes
3 - Is there congruity between the research methodology and the methods used to collect data?	Yes	Yes	Yes
4 - Is there congruity between the research methodology and the representation and analysis of data?	Yes	Yes	Yes
5 - Is there congruity between the research methodology and the interpretation of results?	Yes	Yes	Yes
6 - Is there a statement locating the researcher culturally or theoretically?	Yes	No	No
7 - Is the influence of the researcher on the research, and vice-versa, addressed?	Yes	No	No
8 - Are participants, and their voices, adequately represented?	Yes	Yes	Yes
9 - Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	Yes	Yes	Yes
10 - Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	Yes	Yes	Yes

Table 3: Summaries of JBI quality appraisal assessments – cohort study quality assessment

Item	Trangenstein et al, 2023	Willoughby et al, 2024
1 - Were the two groups similar and recruited from the same population?	N/A	N/A
2 - Were the exposures measured similarly to assign people to both exposed and unexposed groups?	N/A	N/A
3 - Was the exposure measured in a valid and reliable way?	Yes	Yes
4 - Were confounding factors identified?	Yes	Yes
5 - Were strategies to deal with confounding factors stated?	Yes	Yes
6 - Were the groups / participants free of the outcome at the start of the study (or at the moment of exposure)?	N/A	N/A
7 - Were the outcomes measured in a valid and reliable way?	Unclear	Yes
8 - Was the follow up time reported and sufficient to be long enough for outcomes to occur?	Yes	Yes
9 - Was follow up complete, and if not, were the reasons to loss to follow up described and explored?	Yes	Yes
10 - Were strategies to address incomplete follow up utilised?	Yes	Yes
11 - Was appropriate statistical analysis used?	Unclear	Yes

Table 4: Summaries of JBI quality appraisal assessments – quasi-experimental study quality assessment

Item	Wang et al., 2022
1 - Is it clear in the study what is the cause and what is the effect (i.e. there is no confusion about which variable comes first)?	Yes
2 - Was there a control group?	No
3 - Were participants included in any comparisons similar?	N/A
4 - Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?	N/A
5 - Were there multiple measurements of the outcome, both pre and post the intervention/exposure?	Yes
6 - Were the outcomes of participants included in any comparisons measured in the same way?	N/A
7 - Were outcomes measured in a reliable way?	Yes
8 - Was follow-up complete and if not, were differences between groups in terms of their follow-up adequately described and analysed?	Yes
9 - Was appropriate statistical analysis used?	Yes

Appendix 2: Summary of findings

Table 5: Summary of included studies investigating relationship between alcohol home delivery and drinking behaviours

Study (author, year) Country Design Delivery type	Population	Aim	Outcomes measured	Findings	Limitations
Colbert et al., (2023)¹³ Australia Cross-sectional study Rapid, generic	1,158 Australian adults who used online alcohol delivery in past 3 months	To investigate the purchasing and drinking behaviour of Australians who use online alcohol delivery services	Harmful alcohol consumption via AUDIT Use of online alcohol home delivery services Last online alcohol delivery order	20.1% used service to extend a home drinking session, with 33.9% saying they would have stopped drinking if service not available (type of delivery method not specified) - Ever using a delivery service to extend a drinking session (OR 6.26) and usually using fast delivery (OR 1.70) associated with drinking at harmful levels - Participants over 25 significantly more likely to never have their ID verified when alcohol delivered compared to buying off-premise (delivery method not specified) 28% had never purchased alcohol online for delivery prior to the COVID-19 pandemic - Of those who had purchased via home delivery prior to the pandemic, 44% had increased their use, 4% decreased and 52% stayed the same	- Convenience sample - Sample skewed to people from higher household incomes and people who drink more heavily than the general population (but it may be that people who use home delivery drink more heavily than average Australian)
Colbert et al., (2024)²⁷ Australia Qualitative study Generic	40 Australian adults who purchase alcohol online for delivery at least once a month	Explore how and why people use online alcohol delivery services	Methods and reasons for use of online alcohol delivery services	- Three themes emerged, using service: - saves time and energy but for some leads to purchasing and consuming more alcohol than would have - saves money due to promotions, cost-comparisons and ability to shop at low-cost outlets - may have started during pandemic and continued or increased because of formed habits and ongoing convenience	- Convenience sample - Sample lacked low-risk drinkers (based on AUDIT-C) - Delivery methods they used not specified

Coomber et al., (2022)¹⁰ WA, Australia Cross-sectional study Same day Rapid Standard	499 adults living in WA aged 18 - 85 who had used alcohol delivery services in past 6 months	Explore behaviours and experiences of WA adults who purchased alcohol for home delivery in past 6 months, following the introduction of new regulations for same day alcohol deliveries	Characteristics of orders and delivery, customer experience, factors, risk behaviours and harms associated with use of delivery	• Home delivery was main method of alcohol purchase for 25% of sample, next day more common method, 40% used rapid delivery, 25% used same day delivery • 24% had alcohol delivered while intoxicated, of which 75% were never or only sometimes refused delivery. 25% who ordered intoxicated would have stopped drinking if delivery option wasn't available • 22% of those using same day or rapid delivery had unattended orders. 50% who purchased in last 3 months didn't have ID checked • High-risk drinkers used delivery more often and in greater quantities, with 10% ordering because they ran out of alcohol during a drinking session • People who primarily used rapid delivery were significantly more likely to be sometimes intoxicated when receiving orders. For those who normally used same day deliveries, they were significantly more likely to be intoxicated most of the time or sometimes. Participants who primarily used next day delivery were significantly less likely than expected to be intoxicated most of the time or sometimes	• Over-representation of metro-based • Small sample cell sizes for some analyses.
Coomber et al., (2024a)¹¹ WA, Australia Cross-sectional study Same day, generic	465 adults living in WA who had purchased alcohol for home delivery in last 6 months, drawn from sample recruited in Coomber et al., 2022 (see above)	Explore behaviours and experiences of WA adults who purchase alcohol for home delivery	High-risk compared to low-risk drinkers (as measured by AUDIT) for: - usual purchase behaviours - exposure to advertising - most recent purchase	Compared to low-risk drinkers, high-risk drinkers: • were significantly more likely to make more frequent online purchases (odds ratio 5.42), use same day delivery (odds ratio 2.91) compared to longer than one day and purchase through specialised online-only retailers (odds ratio 2.69) • more often reported receiving deliveries while intoxicated (odds ratio 11.62, 49% for high-risk vs 9% for low-risk drinkers – delivery method not specified) and ordering to continue a current drinking session (OR 7.47 – 40% for high-risk drinkers vs 9% for low-risk drinkers – delivery method not specified) • received advertising more frequently (OR 1.60) • ordered larger quantities of alcohol (M = 49 vs. 32 standard drinks)	• Online research panel.
Courtney et al., (2025)¹⁷ USA Cross-sectional study Generic	5,260 adults aged 21 - 62 living in an eligible state and had drunk 12 or more drinks/year during 2019	To examine changes in use of alcohol home delivery, drinking patterns and negative consequences across different USA states with different policies between 2019 and 2023	Alcohol use (drinking frequency p/ week and drinking quantity drinks/day) Negative drinking consequences during pandemic Use of home delivery	• The odds of home delivery use were highest in adults from states with expanded home delivery policies (OR 2.11) • Home delivery use was associated with drinking 4.43 more drinks per week, 33% increased rate in binge days per month and more negative consequences (Incidence Rate Ratio [IRR] 1.28)	• Sample has fewer Hispanic and highly educated adults than general population • Risk of recall bias • Type of alcohol delivery not specified

Goodyear et al., (2022)²¹ USA Cross-sectional study Generic	1,126 adults over 18 from Northeast USA states	Associations between alcohol and cannabis use before and during pandemic, how this varied by socioeconomic characteristics and access to alcohol	Substance use and access during COVID-19 Socioeconomic characteristics	Higher pre-pandemic drinking, mid-range household income and obtaining alcohol through home delivery were associated with higher drinking during pandemic	- Convenience sample, skewed to high income and education - Substance use in last week may have been too short a period to understand behaviour during pandemic
Grossman et al., (2022)¹⁹ USA Cross-sectional study Generic	832 people aged over 21	Understand the impact of alcohol home delivery laws on adult alcohol consumption during the COVID-19 pandemic	Method of obtaining alcohol Alcohol consumption and heavy episodic drinking in past 30 days for people who purchased at least some of their alcohol via delivery vs other methods	21% who drank alcohol in past month had alcohol delivered - People who had alcohol delivered drank more alcohol and drank on more days than people who purchased alcohol through other methods - People who had alcohol delivered were nearly twice as likely to engage in heavy episodic drinking (OR 1.96)	- Convenience sample, skewed to young, white females - Didn't collect data on geographic location to pinpoint state and local law - Type of alcohol delivery method not specified
Huckle et al., (2021)¹⁵ New Zealand Cross-sectional study Same day, rapid, standard	2,173 adults aged 18 and over (drinkers and non-drinkers)	Explore relationship between use of online alcohol delivery and drinking behaviour during pandemic restrictions in NZ	Online delivery use Alcohol consumption (past week, and change in drinking during pandemic)	- Use of online alcohol delivery services during pandemic restrictions had 75% higher odds of being a heavier drinker in past week (6+ on one occasion) (type of delivery method not specified) 18% ordered alcohol online for first time during pandemic 52% orders took more than 2 days to arrive, 29% between 1-2 days, 6% between 3-8 hours, 4% between 1-3 hours, 1% less than 1 hour 56% found alcohol easier to get delivered than groceries, though only 7% reported rapid delivery times (3 hours or less) 23% of males and 14% of females purchased more alcohol for delivery to continue drinking session (type of delivery method not specified)	- Unknown if increase in use of online alcohol delivery an effect of the pandemic or permanent - Convenience sample
MacNabb et al., (2022)²² Canada Cross-sectional study Generic	2,000 adults aged 19 and over	Explore how people access alcohol during the pandemic, and relationship with sociodemographics and alcohol use	Purchase source Alcohol use Socio-demographics and perceived COVID-19 health risk	17.2% used delivery - Women half as likely as men and older people progressively less likely than under 35s to use alcohol delivery - People with COVID-19 or at risk of complications were almost twice as likely to use delivery (aOR 1.87) - People who drank more frequently than at the start of pandemic were about twice as likely to use delivery than those whose drinking stayed the same (aOR 1.98)	Data collected during a minor COVID-19 wave that may not have had a large impact on behaviour and during a time of year when drinking rates lower

Mojica-Perez et al., (2019)¹⁴ Australia Cross-sectional study Rapid, generic	528 adults aged 18 years and over who used online alcohol delivery services in last month	Examine characteristics of alcohol delivery service users, purchasing and drinking practices and reasons for using the services	Alcohol use in last 12 months Usage patterns of alcohol delivery services, reasons for use	• Defined rapid delivery as ‘on-demand delivery service’ which were 20% of all orders • People who used rapid delivery tended to be younger (18 – 29-year-olds, 55.4%), engaged in heavy episodic drinking (69% reported consuming five+ standard drinks on the same occasion as their order), and were able to continue drinking when otherwise they would have had to stop (28%) • 28% who last ordered via rapid delivery reported drinking 11+ drinks on one occasion, compared with 10% for those whose order took longer than 2 hours • Most orders for specialised fast delivery (i.e. Uber Eats, Deliveroo, etc.) were made during evening (51% from 6–9pm, 20% from 9pm – 12am) • Almost all (96%) specialised fast delivery orders arrived within 2 hours compared to 22% of bottle shop orders (mainly Dan Murphy’s and BWS) • 1 in 5 (22%) ordered via rapid delivery because they were over the blood alcohol limit to drive – this increased to more than 1 in 4 (26.9%) for rapid deliveries ordered through specialised fast delivery services • More than one-third of those aged 25 and under (36%) did not have their ID checked (12% who received in person, 24% whose order was left unattended or accepted by someone else)	• Grey literature • Convenience sample
Noel et al., (2023)²⁰ USA Cross-sectional study Generic	184 18–25-year-olds who had ever drunk alcohol	Estimate use of home delivery for alcohol, rates of ID checking and associations with alcohol-related harm	Frequency of home alcohol delivery use and other methods in young adults ID checking at purchase and delivery	• 7.4% purchased alcohol through home delivery/to-go, with 12.1% never having their ID checked at purchase and 12.1% being under legal purchase age • Home delivery/to-go associated with high-risk drinking	• Convenience sample, skewed to females • Type of alcohol delivery method not specified
Pettigrew et al., (2024)²⁶ Australia Mixed methods Autonomous delivery	Nationally representative sample of 1,078 adults (surveyed) and 100 adults interviewed	Explore how consumers may respond to the availability of alcohol via autonomous delivery	Perceptions of effects of increased alcohol via autonomous delivery services	• Automated alcohol deliveries were considered to be highly convenient and likely to be popular • 37% of survey respondents intended to use automated alcohol delivery services and 47% expected overall alcohol consumption to increase in the community • The most common reasons why participants believed overall alcohol consumption would increase were related to reduced need to drive after drinking, convenience and fast delivery times	• Hypothetical scenario may not be how services delivered in future • Web panel sample

Pettigrew et al., (2023)²⁵ Australia Qualitative study Autonomous delivery	44 stakeholders from gov, NGOs, private sector, peak bodies and academia	Explore factors that may increase or restrict the availability of alcohol via autonomous delivery with key stakeholders	Factors that could increase or reduce alcohol availability via autonomous home delivery	Factors identified were demand-side (convenience, price), supply-side (efficiency, cost, big data, unsolicited sales), regulatory (licensing, RSA, taxation, monitoring and enforcement)	Purposive sample
Ruprecht et al., (2024)¹⁸ USA Cross-sectional study Generic	736 people aged 14 – 24	Explore association between drinking behaviours among sexual and gender minority youth and presence of different alcohol delivery policies	Alcohol use (frequency and quantity in single occasion) Alcohol delivery policy in their state Gender and sexuality	- Off premise delivery policy was associated with binge drinking (aOR 2.16) and current light alcohol use (aOR = 1.93) - On premise delivery policy associated with lower rates of binge drinking (aOR 1.99)	- Did not collect participants' methods of alcohol purchase, so availability of service may not reflect actual use - Unstable estimates likely due to small cell sizes
Trangenstein et al., (2023)²⁴ USA Cohort study Generic	1,150 adults aged 18 or over, past-year drinkers who completed two survey waves	Association between home delivery and to-go alcohol purchases was associated with context and beverage-specific consumption volumes during the pandemic	Past year alcohol consumption volume	- Alcohol delivery use was associated with higher overall alcohol (IRR 1.58), wine (IRR 2.90) and spirits consumption (IRR 1.59) - People who had alcohol delivered reported drinking smaller volumes in bars (IRR 0.49) - Purchasing alcohol via delivery and to-go was associated with more home consumption	- Adjusting for baseline alcohol consumption volume may have introduced regression-to-the-mean bias - Only 9% of sample reported having alcohol delivery in past year leading to wide confidence intervals - Not able to explore if there were changes in behaviour from pre-pandemic - Type of alcohol delivery not specified

Wang et al., (2022)²⁸ Australia Quasi-experimental study Generic	All recorded DV and non-DV assaults between 2014 and 2020 in NSW	Assess impact of 2016 extension to trading hours of sale of takeaway and home delivered alcohol (by 1 hour from 10pm to 11pm) on domestic and non-domestic assaults in NSW	Domestic and non-domestic assaults	• Extension of 1 hour in trading hours for takeaway and home-delivered alcohol resulted in an increase of 0.5% per month in the rate of late-night DV assaults (between 10pm and 2am) in the 38 months following policy change, resulting in an additional 1,120 cases • For all DV assaults, there was an increasing trend of 0.4% per month, partially offset by an initial drop in level of assault rate after the policy was introduced	• Possible confounds may have coincided with change in trading hours • Unable to tell the impact the policy had on actual trading hours of bottle shops and home delivery services • Unable to determine if any change due to extended trading hours of bottle shops only, delivery services only, or both • No further specificity on type of delivery service
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Wharton et al., (2023)¹⁶ USA Cross-sectional study Generic	10,505 adults identifying as lesbian, gay, bisexual, queer, questioning (LGBQ) and 809 adults identifying as trans, nonbinary, genderqueer and gender questioning (T/NB/GQ) from 32 eligible USA states	Describe alcohol use and heavy episodic drinking behaviours during the pandemic by sexual (LGBQ) and gender identities (T/NB/GQ) and assess if alcohol-related policies were associated with alcohol use outcomes	Past month consumption (frequency and quantity) Past month heavy episodic drinking (5+ for men, 4+ for women)	Off-premise alcohol home delivery policies during the pandemic were associated with greater quantity of alcohol use for LGBQ respondents and less frequency for T/NB/GQ respondents	- Did not collect participants' methods of alcohol purchase, so availability of service may not reflect actual use - Wide confidence intervals crossing over 0 due to small cell numbers so findings may have been null - No comparison to heterosexual and cisgender populations - HED measure categorised into male/female not appropriate for gender-diverse respondents
Willoughby et al., (2024)²³ Australia Longitudinal study Generic	586 adults from NSW who consumed alcohol in the last 12 months at baseline who had completed at least 2 of 4 survey waves	Explore relationship between alcohol home delivery use and alcohol consumption in NSW during pandemic	Alcohol purchase source Frequency of use of alcohol delivery services over COVID-19 lockdowns Alcohol consumption (weekly volume)	- Alcohol home delivery rose from 20% to 34% during lockdown then reduced back to baseline of 18.5% at Wave 4 - People who used alcohol home delivery consumed significantly more alcohol than those who didn't (weak effect however) - Use of home delivery higher in those who drank more heavily during lockdown and partial re-opening, with people aged 36 or older more likely to use services in all survey waves except lockdown	- Convenience sample - High dropout rate across survey (from 586 in wave 0 to 222 in wave 4) - Type of alcohol delivery method not specified

Table 6: Summary of included studies investigating alcohol delivery services' compliance with regulations

Study (author, year) Country Design Delivery type	Population	Aim	Outcomes measured	Findings	Limitations
Alcohol Change UK (2022) ³⁰ UK Observational / field study Rapid	52 test purchases made by 18-19-year-old participants from 12 online retailers offering rapid alcohol delivery	Test age verification compliance with online retailers selling alcohol in the UK	Age verification at delivery	72% of rapid delivery orders were delivered without a request to verify age, with no orders left unattended	- Grey literature - Limited information on methodology and analytical approach
Coomber et al., (2024b) ¹² WA, Australia Observational / field study Same day, rapid	8 research assistants, aged 18-24, purchased bottle of vodka from 2 locations each day in Perth over 5 weeks and one location in Geelong each day over 4 weeks	Measure compliance with regulations for ID checks and unattended deliveries in Perth and Geelong	Time between order and delivery, method of age verification at time of checkout, alcohol left unattended and photo ID check at point-of-delivery	- Average time from order to delivery for rapid deliveries was less than 1 hour (50 mins in Perth and 36 mins in Geelong) 24% of Perth deliveries were made without an ID check – 18% for rapid and 36% for same-day 21% of Geelong deliveries were made without an ID check – 20% for rapid and 25% for same day - Only one order of 63 was left unattended (in Perth)	- Small sample - Repeated deliveries to same location may have led delivery drivers to recognise research assistants and not do ID checks
Sneyd et al., (2024) ²⁹ New Zealand Observational / field study Same day Rapid Standard	1 research assistant aged 22 made 26 orders from 16 companies	To document the age verification processes for alcohol deliveries with a focus on same-day alcohol delivery and third-party delivery companies	Speed of delivery, age verification processes (including if delivery left unattended and age verification requested by driver)	- Average delivery time for rapid deliveries was 29.5 mins - Of 45 orders made, 73% did not check age verification, with 49% left delivery unattended - Of 16 companies, 62.5% did not check age identification at delivery for all orders made 56% of rapid delivery orders checked ID 7% of same day or standard delivery orders checked ID - UberEats and DoorDash asked for ID on every delivery made in the sample	- Grey literature - Research assistant was not under 18 but did look young - Limited range of sites, companies and regions in NZ

References

1. Duthie C, Pocock T, Curl A, Clark E, Norriss D, Bidwell S, et al. Online on-demand delivery services of food and alcohol: A scoping review of public health impacts. *SSM Popul Health*. 2023. 21:101349. doi: 10.1016/j.ssmph.2023.101349. [cited 2025 Aug 12] Available from: <https://pubmed.ncbi.nlm.nih.gov/36845670/>.
2. Colbert S, Wilkinson C, Thornton L, Feng X, Richmond R. Online alcohol sales and home delivery: an international policy review and systematic literature review. *Health policy*. 2021;125(9):1222–37 [cited 2025 Aug 12] Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0168851021001901>.
3. Babor T, Casswell S, Graham KM, Huckle T, Livingston M, Österberg E, et al., editors. *Alcohol no ordinary commodity: research and public policy*. Third edition ed. Oxford: Oxford University Press; 2023. p 347. [cited 2025 Aug 12]. Available from: <https://adf.on.worldcat.org/oclc/1351198361>.
4. Colbert S, Thornton L, Richmond R. Content analysis of websites selling alcohol online in Australia. *Drug and Alcohol Review*. 2020;39(2):162–9 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/8524167701>.
5. Colbert S, Wilkinson C, Feng X, Thornton L, Richmond R. You've got mail: drinks are on sale! A study to assess volume and content of direct marketing received from online alcohol retailers in Australia. *International Journal of Drug Policy*. 2022;105:103705 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/9488973363>.
6. Torney A, Room R, Jiang H, Huckle T, Holmes J, Callinan S. Where do high-risk drinking occasions occur more often? A cross-sectional, cross-country study. *Drug and alcohol review*. 2024. 43(5):1172–7. doi: 10.1111/dar.13844. [cited 2025 Aug 08] Available from: <https://adf.on.worldcat.org/oclc/10204337016>.
7. Garritty C, Hamel C, Trivella M, Gartlehner G, Nussbaumer-Streit B, Devane D, et al. Updated recommendations for the Cochrane rapid review methods guidance for rapid reviews of effectiveness. *BMJ*. 2024. 384:e076335. doi: 10.1136/bmj-2023-076335. [cited 2025 Aug 08] Available from: <https://www.bmj.com/content/bmj/384/bmj-2023-076335.full.pdf>.
8. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/8980161266>.
9. JBI. Critical Appraisal Tools. JBI. 2025. [cited 2026 Mar 05] Available from: <https://jbi.global/critical-appraisal-tools>.
10. Coomber K, Baldwin R, Taylor N, Callinan SD, Wilkinson C, Toumbourou JW, et al. Western Australia alcohol home delivery project: online survey final report. 2022. [cited 2025 Aug 12] Available from: https://cancerwa.asn.au/assets/public/2023/03/Deakin-University_WA-alcohol-home-delivery-project_Online-survey_final-report.pdf.
11. Coomber K, Baldwin R, Taylor N, Callinan S, Wilkinson C, Toumbourou JW, et al. Characteristics of high- and low-risk drinkers who use online alcohol home delivery in Western Australia. *Drug and alcohol review*. 2024;43(2):407–15 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10086619312>.
12. Coomber K, Baldwin R, Wilson C, McDonald L, Taylor N, Callinan S, et al. Test Purchasing of Same-Day and Rapid Online Alcohol Home Delivery in Two Australian Jurisdictions. *Journal of studies on alcohol and drugs*. 2024;85(6):839–44 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10245065114>.
13. Colbert S, Wilkinson C, Thornton L, Feng X, Campaign A, Richmond R. Cross-sectional survey of a convenience sample of Australians who use alcohol home delivery services. *Drug and alcohol review*. 2023;42(5):986–95 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10184435544>.
14. Mojica-Perez Y, Callinan S, Livingston M. Alcohol home delivery services: an investigation of use and risk. 2019. [cited 2025 Aug 12] Available from: <https://fare.org.au/wp-content/uploads/Alcohol-home-delivery-services.pdf>.
15. Huckle T, Parker K, Romeo JS, Casswell S. Online alcohol delivery is associated with heavier drinking during the first New Zealand COVID-19 pandemic restrictions. *Drug and alcohol review*. 2021;40(5):826–34 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10422855570>.
16. Wharton MK, Islam S, García-Ramírez G, Treffers R, Thomas S, Lipperman-Kreda S. Lesbian, Gay, Bisexual, Queer, Questioning and Transgender, Nonbinary, Genderqueer, and Gender Questioning Adult Alcohol Use Outcomes Associated with State Alcohol-Related Laws During the Coronavirus Pandemic in the United States. *LGBT Health*. 2023. 10(7):526–34. doi: 10.1089/lgbt.2022.0116. [cited 2025 Aug 12] Available from: <https://pubmed.ncbi.nlm.nih.gov/37252781/>.
17. Courtney JB, Roudebush M, Williams RS, Cox MJ, Ribisl KM. Effects of expanding direct-to-consumer alcohol home delivery policies: evidence from 18 states of increases in alcohol use and consequences. *Journal of Studies on Alcohol and Drugs*. 2025;86(3):330–9 [cited 2025 Aug 08] Available from: <https://adf.on.worldcat.org/oclc/1072747771>.
18. Ruprecht MM, Xu J, Curtis MG, Floresca YB, Felt D, Phillips G. Associations Between Alcohol Delivery Policy and Pandemic Alcohol Use Among Sexual and Gender Minority Youth and Young Adults. *Sexuality Research and Social Policy*. 2024;1–14 [cited 2025 Aug 12] Available from: <https://link.springer.com/article/10.1007/s13178-024-01056-6>.
19. Grossman ER, Benjamin-Neelon SE, Sonnenschein S. Alcohol consumption and alcohol home delivery laws during the COVID-19 pandemic. *Substance abuse*. 2022;43(1):1141–6 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/9915610241>.
20. Noel JK, Rosenthal SR. Impact of alcohol home delivery and other methods of obtaining alcohol in young adults. *Alcohol and Alcoholism*. 2023;58(6):606–11 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/9866111683>.

21. Goodyear K, Moyo P, Avila J C, Ahluwalia J S, Monnig M A. Associations between alcohol and cannabis use before and during the COVID-19 pandemic: Results of a community survey. *Addictive Behaviors Reports*. 2022. 16:100455 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/9627620243>.
22. MacNabb K, Blades S, Thompson K, Dutton DJ, Liu T, Asbridge M. Alcohol access and purchasing behaviour during COVID-19 pandemic restrictions: An exploration of sociodemographic, health and psychosocial correlates in two Canadian provinces. *Drug and alcohol review*. 2022;41(4):902–11 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/9407906529>.
23. Willoughby B, Anderson-Luxford D, Mojica-Perez Y, Wilkinson C, Kowalski M, Vuong T, et al. Alcohol home delivery usage and its relationship to alcohol consumption in New South Wales during COVID-19. *International Journal of Alcohol and Drug Research*. 2024;12(1):3–10 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10243762271>.
24. Trangenstein PJ, Greenfield TK, Karriker-Jaffe KJ, Kerr WC. Beverage- and Context-Specific Alcohol Consumption During COVID-19 in the United States: The Role of Alcohol To-Go and Delivery Purchases. *J Stud Alcohol Drugs*. 2023. 84(6):842–51. doi: 10.15288/jsad.22-00408. [cited 2025 Aug 12] Available from: <https://pubmed.ncbi.nlm.nih.gov/37449953/>.
25. Pettigrew S, Booth L, Farrar V, Godic B, Karl C, Brown J, et al. Expert stakeholders' views on the potential nature and impacts of autonomous alcohol home delivery. *Drug and Alcohol Review*. 2023;42(5):996–1003 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10184434295>.
26. Pettigrew S, Booth L, Farrar V, Brown J, Godic B, Vidanaarachchi R, et al. Australians' perceptions of the potential effects of increased access to alcohol via autonomous delivery services: A multi-method study. *Addictive Behaviors*. 2024;148:107872 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10028616136>.
27. Colbert S, Thornton L, Wilkinson C, Feng X, Richmond R. 'The convenience is a double-edged sword': Qualitative interviews with people who use online alcohol delivery services. *Drug and Alcohol Review*. 2024;43(2):425–33 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10078449093>.
28. Wang J, Fung T, Poynton S. Takeaway alcohol sales and violent crime: the implications of extended trading hours. *Crime and Justice Bulletin*. 2022. [cited 2025 Aug 12] Available from: <https://opus.lib.uts.edu.au/bitstream/10453/159396/2/2022-Report-Takeaway-alcohol-sales-and-violent-crime-CJB247-2022-02-21-V3.pdf>.
29. Sneyd S, Richardson M. Alcohol Home Deliveries: age verification processes of online alcohol delivery companies in Auckland, New Zealand. 2024. [cited 2025 Aug 12] Available from: <https://www.ahw.org.nz/Portals/5/Resources/Documents-other/2024/Alcohol%20Home%20Deliveries%20HIGH%20DEF.pdf>.
30. Leyshon M, Alcohol Change UK. Delivering a problem? 2022. [cited 2025 Aug 12] Available from: <https://movendi.ngo/policy-updates/2022/04/21/age-verification-failure-in-alcohol-online-sales-and-on-demand-delivery/>.
31. Rinaldi C, D'Aguilar M, Egan M. Understanding the Online Environment for the Delivery of Food, Alcohol and Tobacco: An Exploratory Analysis of 'Dark Kitchens' and Rapid Grocery Delivery Services. *International Journal of Environmental Research and Public Health*. 2022. 19(5523):5523. doi: 10.3390/ijerph19095523. [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/10161766990>.
32. Nepal S, Kypri K, Tekelab T, Hodder RK, Attia J, Bagade T, et al. Effects of Extensions and Restrictions in Alcohol Trading Hours on the Incidence of Assault and Unintentional Injury: Systematic Review. *Journal of studies on alcohol and drugs*. 2020;81(1):5–23 [cited 2025 Aug 12] Available from: <https://adf.on.worldcat.org/oclc/8532204962>.
33. Sanchez-Ramirez DC, Voaklander D. The impact of policies regulating alcohol trading hours and days on specific alcohol-related harms: a systematic review. *Injury prevention*. 2018;24(1):94–100 [cited 2025 Aug 12] Available from: <https://injuryprevention.bmj.com/content/24/1/94.full>.
34. Stockwell T, Chikritzhs T. Do relaxed trading hours for bars and clubs mean more relaxed drinking? A review of international research on the impacts of changes to permitted hours of drinking. *Crime Prevention and Community Safety*. 2009. 11:153–70 [cited 2025 Aug 12] Available from: <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=9ce462289348014224b4d801e739136f4d4972e8>.
35. Wilkinson C, Livingston M, Room R. Impacts of changes to trading hours of liquor licences on alcohol-related harm: a systematic review 2005–2015. 2016 [cited 2025 Aug 12] Available from: https://opal.latrobe.edu.au/articles/journal_contribution/Impacts_of_changes_to_trading_hours_of_liquor_licences_on_alcohol-related_harm_a_systematic_review_2005-2015/22246558/1/files/39537097.pdf.
36. Coroners Court of Victoria. Reform of rules for home alcohol delivery needed, says coroner. Coroners Court of Victoria. 2025. [cited 2025 Aug 11] Available from: <https://www.coronerscourt.vic.gov.au/reform-rules-home-alcohol-delivery-needed-says-coroner#>.
37. Thompson A, Ward M. Jimmy Brings alcohol delivery investigated over Sydney man's death (Sydney Morning Herald). Sydney: Fairfax Media. 2021. [cited 2025 Aug 20] Available from: <https://www.smh.com.au/national/jimmy-brings-alcohol-delivery-investigated-over-sydney-man-s-death-20211013-p58zqq.html>.
38. Carah N, Brodmerkel S. Alcohol Marketing in the Era of Digital Media Platforms. *Journal of studies on alcohol and drugs*. 2021;82(1):18–27 [cited 2025 Aug 20] Available from: <https://adf.on.worldcat.org/oclc/8913376457>.