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Availability of alcohol: Location, time and ease of purchase in high- and middle-income countries: Data from the International Alcohol Control study

GAILE GRAY-PHILLIP¹, TAISIA HUCKLE² , SARAH CALLINAN³, CHARLES D. H. PARRY^{4,5} , SURASAK CHAIYASONG⁶ , PHAM VIET CUONG⁷, ANNE-MARIE MACKINTOSH⁸, PETRA MEIER⁹, ELENA KAZANTSEVA¹⁰, MARINA PIAZZA¹¹, KARL PARKER² & SALLY CASSWELL² 

¹St Kitts-Nevis National Council on Drug Abuse Prevention Secretariat, Basseterre, St Kitts & Nevis, ²Massey University, SHORE and Whariki Research Centre, Auckland, New Zealand, ³Centre for Alcohol Policy Research, School of Psychology and Public Health, La Trobe University, Melbourne, Australia, ⁴Alcohol, Tobacco and Other Drug Research Unit, Medical Research Council, Pretoria, South Africa, ⁵Department of Psychiatry, Stellenbosch University, Cape Town, South Africa, ⁶Social Pharmacy Research Unit, Faculty of Pharmacy, Mahasarakham University, Talat, Thailand, ⁷Center for Injury Policy and Prevention Research, Hanoi University of Public Health, Hanoi, Vietnam, ⁸Institute for Social Marketing, University of Stirling, Stirling, UK, ⁹Sheffield Alcohol Research Group, University Sheffield, Sheffield, UK, ¹⁰Public Health, Research, Education and External Affairs Department, National Center of Mental Health of Mongolia, Ulaanbaatar, Mongolia, and ¹¹Universidad Peruana Cayetano Heredia, Lima, Peru

Abstract

Introduction and Aims. Cross-country studies on alcohol purchasing and access are rare. We examined where and when people access alcohol to understand patterns of availability across a range of middle- and high-income countries. **Design and Methods.** Surveys of drinkers in the International Alcohol Control study in high-income countries (Australia, England, Scotland, New Zealand and St Kitts and Nevis) and middle-income countries (Mongolia, South Africa, Peru, Thailand and Vietnam) were analysed. Measures were: location of purchase from on-premise and take-away outlets, proportion of alcohol consumed on-premise versus take-away outlets, hours of purchase, access among underage drinkers and time to access alcohol. **Results.** On-premise purchasing was prevalent in the high-income countries. However, the vast majority of alcohol consumed in all countries, except St Kitts and Nevis (high-income), was take-away. Percentages of drinkers purchasing from different types of on-premise and take-away outlets varied between countries. Late purchasing was common in Peru and less common in Thailand and Vietnam. Alcohol was easily accessed by drinkers in all countries, including underage drinkers in the middle-income countries. **Discussion and Conclusions.** In nine out of 10 countries the vast majority of alcohol consumed was take-away. Alcohol was readily available and relatively easy for underage drinkers to access, particularly in the middle-income countries. Research is needed to assess the harms associated with take-away consumption including late at night. Attention is needed to address the easy access by underage drinkers in the middle-income countries which has been less of a focus than in high-income countries. [Gray-Phillip G, Huckle T, Callinan S, Parry CDH, Chaiyasong S, Cuong PV, Mackintosh A-M, Meier P, Kazantseva E, Piazza M, Parker K, Casswell S. Availability of alcohol: Location, time and ease of purchase in high- and middle-income countries: Data from the International Alcohol Control study. *Drug Alcohol Rev* 2018]

Key words: alcohol, availability, location, time and ease of purchase, international alcohol control study.

Gaile Gray-Phillip M.Res, Dean, Taisia Huckle PhD, Senior Researcher, Sarah Callinan PhD, Research Fellow, Charles D. H. Parry PhD, Director, Surasak Chaiyasong PhD, Director, Pham Viet Cuong PhD, Director, Anne-Marie Mackintosh BSc Hons, Senior Researcher, Petra Meier PhD, Director, Elena Kazantseva PhD, Researcher, Marina Piazza ScD, Researcher, Karl Parker MSc, Statistician, Sally Casswell PhD, Director. Correspondence to Ms Gaile Gray-Phillip, St Kitts and Nevis National Council on Drug Abuse Prevention Secretariat, PO Box 1692 Basseterre KN265, Saint Kitts and Nevis. Tel.: +869-662-3365; E-mail: gailephillip@gmail.com

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Introduction

Published research on where and when people purchase alcohol is relatively limited. However, data on alcohol purchasing behaviour may provide new information related to key aspects of alcohol availability that are amenable to policy intervention [1], for example, types of outlets, trading hours, ease of access. Some studies from high-income countries have been published using alcohol purchasing data. However, these studies have tended to use market research data or government expenditure surveys which can lack detail about the range of premises purchased from (and the time of purchase) [2,3]. One relevant study used population survey data from the Australian arm of the International Alcohol Control (IAC) study to assess take-away purchasing from a range of premises (in the past 6 months). This study found that the majority of respondents purchased from off-premise and also found that liquor barns (large warehouse-style alcohol stores) and bottle shops comprised the vast majority of the take-away market [4]. To the best of our knowledge, there is no published research on location-specific purchase patterns in middle-income alcohol markets (including premises that sell informal alcohol). This is largely due to the lack of available survey data that collects location-specific alcohol purchase data cross-country, however, these are now available as part of the IAC study.

The trading hours of premises are a key availability policy lever and accordingly a number of studies have shown the impacts of changes to trading hours [5–10]. Complementary data quantifying at what times drinkers purchase, including late purchase, have not been available in high- or middle-income countries and little is known about how times of trading differ cross-country.

The ease with which drinkers can access alcohol from outlets is also a key component of alcohol availability. In the current study, respondents were asked how long they took to travel to the place where they usually accessed alcohol which may be useful in understanding levels of availability/proximity to outlets in countries. Previous research has shown that time to access alcohol may be a useful measure of availability [11]. Additional questions about ease of access were asked of young drinkers under the purchase age (which was 18 years for all countries, except for Thailand where the purchase age was 20 years). To the best of our knowledge, there is no cross-country research describing underage access in high- and middle-income countries.

Patterns of availability in different countries can be expected to be mediated by factors such as regulation and social norms. It is not clear how regulation translates directly to behaviour, however, particularly in countries where other mediating factors like

enforcement and compliance are low. While these issues are difficult to tease out from one another, an important first step is to provide a description of patterns of purchase and access to alcohol cross-country.

Given the lack of published research assessing alcohol purchasing and access in countries with varying income levels, we will: (i) describe how patterns of access vary across available countries by reporting where people purchase and the proportion of alcohol consumed on-premise compared to take-away; (ii) describe when and how long it takes people to access alcohol to understand patterns of availability cross-country; and (iii) describe under-age age identification verification practices and successful purchase from five high-income countries (Australia, England, Scotland, New Zealand and St Kitts) and five middle-income countries (Mongolia, South Africa, Peru, Thailand and Vietnam).

Methods

The current study utilised surveys of drinkers conducted in 10 high- and middle-income countries conducted as part of the IAC study.

Sampling

Multi-stage sampling was designed to obtain random representative samples of adult drinkers aged 16–65 years in the following places: St Kitts and Nevis (national), Thailand (national), South Africa (Tshwane metropolitan municipality covering Pretoria and surrounding areas), Peru (Los Olivos district in the city of Lima), Mongolia (Bayanzurkh and Chingeltei in Ulaanbaatar) and three provinces in Vietnam (Thai Binh, Khanh Hoa and Dong Thap). National stratified samples of residential telephone numbers (published and unpublished) were used in New Zealand, England, Scotland and in Australia a national sample frame of residential landline (60%) and cell phone numbers (40%) was used. For further details on sampling please see Huckle *et al.* [12].

Data collection

Interviews were conducted via computer-assisted interviewing face-to-face using tablets in Mongolia, Peru, South Africa, St Kitts and Nevis, Thailand and Vietnam. New Zealand conducted data collection using an in-house Computer-Assisted Telephone Interviewing system and Australia, England and Scotland used telephone interviewing by external survey data collection agencies.

Once a household was contacted, a screener determined eligibility for participation—drinkers in the past 6 months and age 16–65 years were eligible. Eligible individuals were enumerated, and one respondent was selected at random by the computer/tablet. Additional screening criteria for Australia meant that a larger proportion of risky drinkers, defined as consuming more than 50 g of alcohol in a session at least once a month, were included than would otherwise be obtained in a random sample. This oversampling was accounted for in all analyses with weighting [13]. Numerous call backs were made at different times of the day and days of the week in order to attempt to reach the household/selected respondent.

Considerable effort was put into minimising refusals in the baseline data collection and thereby maximising the response rate. Response rates were calculated using at least AAPOR #3 [14] and were as follows: Australia (37%), England (16%), Scotland (19%), New Zealand (60%), St Kitts and Nevis (60%), Thailand (93%), South Africa (78%), Peru (82%), Mongolia (44%) and Vietnam (99%). For further details refer to Huckle *et al.* [12]. The demographic characteristics of the samples can be found in Table S1.

Ethical approval

Ethical approval to conduct the IAC study was obtained by each country.

Measures

All measures had a 6 month reference period.

Location of purchase

On-premises were defined as places where people purchase and drink at the same premise. Take-away premises were defined as places where alcohol is purchased but taken away to be consumed elsewhere (i.e. at places such as private homes and public places). Some premises sell alcohol to drink on-premise and to take-away and the IAC survey asked questions to allow the separation of on-premise or take-away purchase from these types of premises.

Eligible respondents reported drinking alcohol in the past 6 months and they were asked to report where they drank from a range of on-premise and unlicensed drinking locations adapted to each country's context and which covered the full range of locations (including any other place). For on-premise locations, respondents were asked how they usually obtained the alcohol they consumed at these places including

whether they purchased it themselves, took it with them or had someone buy it for them there. Common on-premise purchasing venues asked about in all countries included: pubs, bars, nightclubs, restaurants, cafes/coffee shops, clubs including sports clubs (excluding Thailand) and special events including sports events, festivals, music events or dance parties. Respondents who drank at unlicensed locations, that is, home, other's home, public place, were asked separate questions about how they got the alcohol they drank at these venues and if they reported buying it, they were then asked from which types of take-away outlets they bought. Common take-away outlets asked about in all countries included alcohol shops, small grocery stores and supermarkets. A full range of purchase locations are provided in Table 1. For further details on how the location of purchase questions were asked refer to Huckle *et al.* [12].

Proportion of alcohol on-premise versus take-away outlets

Volume of alcohol consumed by respondents who purchased on-premise or to take-away was calculated using a within-location beverage-specific measure used to collect alcohol consumption data in each country [15] (please see Huckle *et al.* [12] for further details). From this measure, the proportion of the total volume consumed on-premise versus take-away was determined.

Time of purchase

Respondents reported the times at which they had purchased alcohol from a range of on- and take-away premises. Response options for these questions were specified and the exact time periods asked about in the questionnaires can be seen in Tables 2 and 3. Respondents could report purchasing in more than one time period. In some countries, the time periods asked about reflected country-specific adaptation. In England and Scotland purchase times were not asked and for Australia the latest time purchased was asked and so was not comparable. These three countries were therefore excluded.

Younger drinkers

Drinkers under the purchase age were also asked 'When trying to buy alcohol, how often are you asked to show age identification (ID)?' and 'when you try to buy alcohol, do you get it...' 'Both measures were rated on a scale of 1 to 10 (with 1 being *none of the time* and

Table 1. The percentages of drinkers purchasing alcohol at on-premise or take-away outlets across countries at least once in the last 6 months

Purchased at least once in last 6 months %	Australia	England	Scotland	New Zealand	St Kitts & Nevis	Thailand	South Africa	Peru	Mongolia	Vietnam
<i>On-premise purchasing</i>										
Pubs, bars, taverns or nightclubs	58	74	75	52	52	1	32	17	37	1
Restaurants, cafes, coffee shops	54	73	71	58	24	4	10	8	22	24
Clubs, such as sports clubs, groups or meetings	20	20	22	24	3	—	5	6	2 ^a	15
Special events such as festivals, sports events, music events or dance parties	32	24	17	26	30	1	7	14	1 ^b	1 ^b
Theatres/cinemas	—	23	21	8	—	—	0	0	1	—
Grocery store/bar shop	—	—	—	—	30	10	—	—	—	—
Beer stalls/eateries	—	—	—	—	—	—	—	—	—	45
Side walk tea shop	—	—	—	—	—	—	—	—	—	7
Shebeen	—	—	—	—	—	—	6	—	—	—
Purchased on-premise at least once^c	80	88	89	78	72	15	71	25	45	61
% alcohol consumed on-premise	21	33	34	25	70	13	10	37	24	19
<i>Take-away purchasing</i>										
Alcohol shop	67	11	8	42	—	2	49	10	8	14
Liquor barn	73	—	—	—	—	—	—	—	—	—
Supermarket	—	80	81	62	22	1	5	11	24	0
Small grocery store	9	8	8	3	5	56	2	31	18	27
Convenience store	13	—	—	—	—	4	—	—	—	—
Phone/internet	10 ^d	4	4	4	—	0	0	0	1	3
Duty-free shop	—	2	1	6	3	0	0	0	0	—
Bar/tavern (take-away)	—	—	—	—	22	—	18	—	—	—
Vineyard/winery	15	—	—	—	—	0	0	0	—	—
Distillery	—	—	—	—	—	0	—	—	—	11
Shebeen	—	—	—	—	—	—	5	—	—	—
Beer stalls/eateries	—	—	—	—	—	—	—	—	—	12
Purchased take-away at least once^c	94	88	88	82	44	63	75	45	44	52
% alcohol consumed take-away	79	67	66	75	30	87	90	63	76	81

^aSports club only. ^bSports events only. ^cPercentages may not add to 100% due to multiple responses; not all drinkers reported purchasing on-premise or take-away.

^dAustralia, England and Scotland asked about phone/internet/mail order combined. —, not asked.

Table 2. Percentages of on-premise drinkers purchasing late from on-premise outlets across countries^a

Purchased on-premise at least once in last 6 months %	New Zealand	St Kitts & Nevis	Thailand	South Africa	Peru	Mongolia	Vietnam
Midnight–2 am	26	38	—	10	40	16	1
2–3 am	14	18	—	6	29	1	—
3–4 am	6	10	—	3	17	1	—
After 4 am	3	6	—	3	8	2	—
12–6 am	—	—	12	—	—	—	—
2–6 am	—	—	—	—	—	—	0.2

^aPercentages may not add to 100% as drinkers could report purchasing in more than one time period; not all drinkers reported purchasing late. —, not asked.

10 being *all the time*); responses on the scale that were 6 or above were grouped to represent ‘more than half of the time’, a response of 10 was ‘all of the time’. England and Scotland used a 5 point scale and responses 4–5 were grouped as ‘more than half the time’, and a response of 5 was ‘all the time’.

All countries included in the study had a purchase of 18 years except for Thailand where the legal purchase age was 20 years.

Time to access alcohol

Respondents were asked ‘In general, how much time would it take for you to travel to the usual place where you purchase or get alcohol from?’. Response options were categorical: beginning at less than 5 min and moving up in 5 min brackets until 1 h, then in 25 min brackets up to more than 3 h.

Data Analysis

Descriptive statistics were used to generate the percentages of drinkers purchasing from on-premise or

take-away outlets (the denominator was all drinkers). Percentages may not add to 100% because of multiple responses. Further, not all drinkers reported purchasing on-premise or to take-away (Table 1). The proportion of the alcohol market purchased on-premise vs. take-away was determined from the total volume of alcohol consumed among purchasers in a country. Drinkers purchasing late from on-premises (the denominator was on-premise drinkers) and percentages purchasing late from take-away outlets (the denominator was take-away drinkers). Drinkers could report purchasing in more than one time period so percentages may not add to 100%; not all drinkers purchased late (Tables 2 and 3). For the time to access alcohol measure, all drinkers was the denominator, here percentages may not add to 100% as some people did not travel to purchase alcohol or reported they did not purchase (Table 4). All underage drinkers were asked about experience of age ID requests and successful underage purchase. Only drinkers that reported being asked for ID or served ‘more than half of the time’ are reported (Table 5).

Weights were applied to correct for unequal selection probability of respondents, sampling weights for South Africa were available and applied as were post

Table 3. Percentages of take away drinkers purchasing late from take-away outlets across countries^a

Purchased take-away at least once in last 6 months %	New Zealand	St Kitts & Nevis	Thailand	Peru	Mongolia	Vietnam
8–10 pm	33	21	—	29	34	—
10–11 pm	8	8	—	21	2	—
11 pm–midnight	3	6	—	14	1	—
After midnight	2	4	—	8	0	—
12–6 am	—	—	0.4	—	—	—
9 pm–midnight	—	—	—	—	—	2.4
Midnight–2 am	—	—	—	—	—	0.1
2–6 am	—	—	—	—	—	0
Early morning 6–9 am	3	3	—	1	2	6

^aPercentages may not add to 100% as drinkers could report purchasing in more than one time period; not all drinkers reported purchasing late. —, not asked.

Table 4. Usual time to access alcohol by drinkers across countries (percentages)^a

Time to usually obtain alcohol	Less than 5 min (%)	5 min (%)	10 min (%)	15–30 min (%)	30+ min (%)
England	18	28	29	21	1
Scotland	16	31	27	22	1
New Zealand	17	31	27	19	1
St Kitts and Nevis	26	20	20	28	3
Thailand	33	38	18	10	1
South Africa	22	19	23	31	4
Peru	38	30	7	6	0
Mongolia	23	15	19	31	1
Vietnam	12	36	27	20	2

^aPercentages may not add to 100% as some respondents reported they, for example, did not travel to purchase alcohol.

stratification weights for Australia, England, Scotland and New Zealand.

Results

Purchase at on-premise and take-away alcohol outlets

More drinkers purchased on-premise in the high-income countries relative to the middle-income countries. Purchasing alcohol to take-away was reported to be more prevalent, relative to on-premise purchase, in Australia, New Zealand, Peru, South Africa and Thailand. In Thailand 63% of drinkers purchased alcohol to take-away as compared to 15% purchasing on-premise. In Mongolia, England and Scotland, relatively equal percentages purchased at on-premise or to take-away (44%) (Table 1).

Table 5. Percentages of drinkers under the purchase age asked for age ID and who were served across countries^a

	Asked for ID (%)		Get served (%)	
	More than half the time	All of the time	More than half the time	All of the time
England	40	27	41	23
Scotland	27	20	14	6
New Zealand	73	32	38	19
St Kitts & Nevis	5	5	86	64
Thailand	14	1	86	51
South Africa	8	6	55	37
Peru	24	2	55	26
Mongolia	17	0	9	9
Vietnam	—	—	—	—

^aPercentages do not add to 100% as drinkers that reported being asked for ID or served 'more than half of the time' are reported ('all of the time' is a sub-set of 'more than half the time'). —, not asked; ID, identification.

Proportion of alcohol on-premise versus take-away outlets

In all countries, except for St Kitts and Nevis, the vast majority of alcohol consumed by those who purchased was take-away, ranging from 63% in Peru to 90% in South Africa (Table 1).

On-premise purchase

The percentages of drinkers purchasing from the different types of on-premise outlets varied across the countries. Purchasing from bars, pubs, taverns and nightclubs at least once in the past 6 months was more common among drinkers in the high-income countries—Scotland, England, Australia, New Zealand and St Kitts and Nevis—particularly relative to Thailand, Vietnam and Peru. Greater percentages of drinkers in the high-income countries were reported to purchase from restaurants, cafés or coffee shops, than in the other countries with around 23% of purchasers doing so in St Kitts and Nevis, Mongolia and Vietnam. In South Africa, Peru and Thailand percentages were 10% or less. Special events were relatively popular venues for purchase in the high-income countries. Clubs, including sports clubs were purchased from by around 20% of drinkers at least once in the past 6 months in Australia, New Zealand, Scotland and England and in Vietnam the percentage was 15%. In all other countries, percentages purchasing from clubs such as sports clubs were very low (Table 1).

Take-away purchase

Alcohol shops (and 'booze barns'—large warehouse-style alcohol-specific stores selling discount alcohol—Australia only) were commonly purchased from in the past 6 months by drinkers in the high-income countries—Scotland, England, Australia,

New Zealand and also South Africa (a middle-income country). In Scotland, England and New Zealand, supermarkets were more commonly purchased from than alcohol shops and the difference was particularly marked in Scotland and England. In St Kitts and Nevis and the middle-income countries (excluding South Africa), small grocery outlets/bar shops were the most common place of purchase by drinkers (Table 1). In St Kitts and Nevis and South Africa, purchasing to take-away from bars/taverns was also relatively common (22% and 18%, respectively); in South Africa this was the second most common take-away purchase place.

Purchase locations specific to countries

There were a range of purchasing places that were specific to particular countries. In South Africa, shebeens, non-licensed bars, were purchased at by 6% of drinkers. In Vietnam beer stalls/eateries, large drinking venues that sell mainly beer and sell snack type foods, were a common place of purchase with 45% of drinkers doing so. In St Kitts and Nevis, barshops, that are small licensed outlets in villages, sometimes attached to a house, where people can drink on-premise were relatively commonplaces of purchase (30%) (Table 1). These types of grocery outlets, including those in Thailand, tend to sell alcohol for drinking on-premise and for take-away. In Vietnam, side walk tea shops commonly sell self/locally produced spirits and beer (informal alcohol) and 7% of drinkers purchased there.

Hours of purchase on-premise and take-away outlets

Table 2 shows the percentages of on-premise drinkers that purchase late. Drinkers could report purchasing in more than one time period.

Peru was the country where the highest percentages of on-premise drinkers reported purchase after midnight. Peru was followed by the high-income countries, New Zealand and St Kitts and Nevis. Late purchasing from on-premises was lower in South Africa, Mongolia, Thailand and very rare in Vietnam (Table 2).

Where time periods asked about were directly comparable, that is, in New Zealand, St Kitts, South Africa, Peru, Mongolia and Vietnam the most common late purchase time was between midnight and 2 am relative to 2–3 am, 3–4 am or after 4 am in each respective country (Table 2).

As with the on-premise purchasing times, a similar overall pattern was seen where Peru was the country

where the highest percentages of take-away drinkers reported late purchase (albeit the time periods were different than for on-premise). Peru was followed by the high-income countries and Mongolia. Purchasing alcohol to take-away at later times was reported by very low percentages of drinkers who consumed take-away alcohol in Vietnam and Thailand (Table 3).

Where time periods asked about were directly comparable, that is, in New Zealand, St Kitts and Nevis, Peru and Mongolia higher percentages of take-away drinkers reported purchase between 8–10 pm than at 10–11 pm, 11 pm–midnight or after midnight in each respective country (Table 3).

Time to access to alcohol

In Peru, 38% of respondents reported usually accessing alcohol in less than 5 min, followed by Thailand 33% and St Kitts and Nevis 26%. In contrast, in Vietnam 12% of respondents usually access alcohol in less than 5 min. Around 50% or greater of drinkers usually access alcohol in 5 min or less in all countries except in South Africa or Mongolia (41% and 38%, respectively) (Table 4).

Access to alcohol by drinkers under the purchase age

Of drinkers under the purchase age, the percentage that were asked for age ID 'more than half of the time' was highest in New Zealand (73%) and lowest in St Kitts and Nevis (5%). About 32% of young drinkers reported that they were asked for age ID when trying to buy alcohol 'all of the time' in New Zealand, these percentages were 27% in England and 20% in Scotland. Percentages of those who were asked for age ID were much lower in the middle-income countries (Table 5).

Getting served

Of drinkers under the purchase age, over 80% were served in St Kitts and Thailand 'more than half of the time'. St Kitts and Nevis also had the highest percentages of underage drinkers reporting they were served all of the time they tried—over 60% in St Kitts and Nevis followed by Thailand at 50%. South Africa and Peru had the next largest percentages of those under the purchase age reporting they were served more than half of the time (55%, respectively). While the percentage being asked for ID was low in Mongolia, so was the percentage getting served. Alcohol was generally

harder to purchase the high-income countries while underage, the exception was St Kitts and Nevis where it was relatively easy to do so (Table 5).

Discussion

While this study was descriptive in nature, some general patterns of purchasing and alcohol access became apparent. In all countries except St Kitts and Nevis and Vietnam, purchasing to take-away at least once in the last 6 months was reported to be as prevalent, or more prevalent than purchasing from on-premises. Further, the vast majority of alcohol consumed in all countries included in the current study, except in St Kitts and Nevis, was from take-away sources. In Vietnam, informal alcohol is commonly purchased/consumed [16], and will be contributing to the proportion of alcohol considered take-away and on-premise in this study [17]. In many of the countries included in this study, take-away alcohol was cheaper than in on-premise [18]. The cheaper prices may be a contributing factor to the popularity of take-away alcohol cross-country.

On the whole, on-premise purchasing was more apparent in the high-income countries with bars and restaurants being popular venues (and bars in Mongolia). Some of the middle-income countries in this study, particularly Thailand and Vietnam had a wider array of outlets particularly those termed as grocery stores/eateries that were relevant purchasing venues. These types of premises tend to sell alcohol for drinking on-premise and for take-away. These types of premises differ, for example, from what in New Zealand or Australia would be considered a grocery store in that people would not be permitted to sit and drink inside or on the street immediately outside. This likely reflects different licensing systems and/or lack of enforcement of any licencing regulations allowing a greater range of street type grocery premises to operate. In Vietnam, particularly in rural areas, customers can buy informal alcohol beverages in small shops or at the home of the producer of informal alcohol [17]. This highlights contextual differences between some high- and middle-income markets with respect to some types of outlets.

With respect to the percentages of drinkers purchasing late, results indicate that countries varied in terms of patterns in times of purchase. Where the same time periods were asked about, the most common late purchase times for on-premises was between midnight and 2 am and 8–10 pm for take-away alcohol. It was reported that Peru and the high-income countries St Kitts and Nevis and New Zealand were the countries

with the greatest prevalences of late purchasing on-premise (and take-away). Percentages were lower in the other middle-income countries, especially in Thailand and Vietnam. These data suggest that late drinking night-time economies are not universal. Contextual data on hours of trading/closing times can provide some additional insight into these patterns. In the high-income countries on-premises and take-way outlets are open late although in St Kitts and Nevis late trading is limited to nightclubs (with most other premises closing by 10 pm). In South Africa, shebeens are unregulated with some reportedly open 24/7 especially over weekends. In the other middle-income countries, for example, Vietnam most on-premise and take-away outlets close by 10 pm and in Thailand common closing times for the take-away outlets is 9 pm and for on-premises midnight.

Alcohol was easily accessible in the countries participating in the current study. The majority of drinkers, or close to, reported that they usually accessed alcohol in 5 min or less and likely reflects the high availability of alcohol reported previously in all of these countries [19].

Young people's ease of access showed a clear pattern where being asked for age ID was less prevalent and being served underage was more prevalent in the middle-income countries. The only exception was St Kitts and Nevis, a country which had transitioned to high-income by 2014 [20], where access was very easy for those under the purchase age. These findings likely reflect the lack of enforcement of the purchase age in reported in these countries [19].

This study has a number of limitations. Not all samples were national, different sample designs and data collection methods, that is, telephone versus face to face were used and these factors need to be taken into account when interpreting the findings. Response rates also varied and were low in some countries (Australia, England and Scotland). As with all surveys, some of the heaviest drinkers may have been missed. Data were self-reported which may be subject to bias.

Conclusions

On-premise purchasing was more prevalent in the high-income countries, however, the vast majority of alcohol consumed in nine of the 10 countries was take-away. Alcohol availability was high and it was easy for those under the purchase age to access alcohol, particularly in the middle-income countries. Research is needed to assess the harms associated with take-away consumption especially late at night and attention is needed to address the easy access to alcohol by

underage youth in the middle-income countries which has generally been less of a focus than in high-income countries.

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Supporting information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

Table S1. Demographic characteristics of the samples