

Unrecorded Alcohol

BACKGROUND

Unrecorded alcohol is not reflected in official statistics of the country in which it is produced consumed, or both.

- The unrecorded alcohol market includes a number of different components, legal and illegal, which are described in the taxonomy presented in Figure 1.
- Because it is not recorded, and can often be clandestine, the unrecorded alcohol market is difficult to measure and accurate estimates of its size are difficult to obtain in most countries. For the same reason, information on production processes, drinking patterns, and outcomes associated with unrecorded alcohol, as well as the quality and safety of unrecorded products, is also limited. This makes studying the unrecorded market challenging.

The unrecorded market is outside the reach of government regulation and, therefore, does not respond to policies like pricing or restrictions on availability, which are aimed at legal products.

- However, harmful drinking is as much associated with unrecorded alcohol as it is with recorded products.
- A solid understanding of the unrecorded market, the behavior of consumers and producers, and drinking patterns are needed for the crafting of appropriate policies to address harmful drinking at the national level, as well as in global initiatives.
- Both the Global Action Plan for the Prevention and Control of NCDs and the SDGs include attention to harmful drinking; in many low and middle income countries, this requires particular focus on the unrecorded alcohol market, which often makes up the bulk of all alcohol consumed.

This briefing provides an overview of unrecorded alcohol, its prevalence, and the drivers of consumption and production.

PREVALENCE

According to World Health Organization (WHO) data, about 25% of all alcohol consumed globally is unrecorded, but this figure is much higher in some countries and regions [2]:

- In 2010, unrecorded alcohol, as a proportion of total alcohol consumed, was highest in the Eastern Mediterranean, South-East Asia, and Africa regions (55%, 47%, and 30%, respectively).
- By volume, however, unrecorded per capita consumption in 2010 was estimated to be highest in the European, African, and Western Pacific regions (1.9, 1.8, and 1.7 liters pure alcohol, respectively).
- According to WHO, the proportion of unrecorded alcohol relative to total alcohol consumed has declined from 29% in 2005 to 25% in 2010.
- However, it should be noted that these figures are estimates. Robust data for the consumption or prevalence of unrecorded alcohol are unavailable for most countries around the world, and are likely significantly underestimated in some.

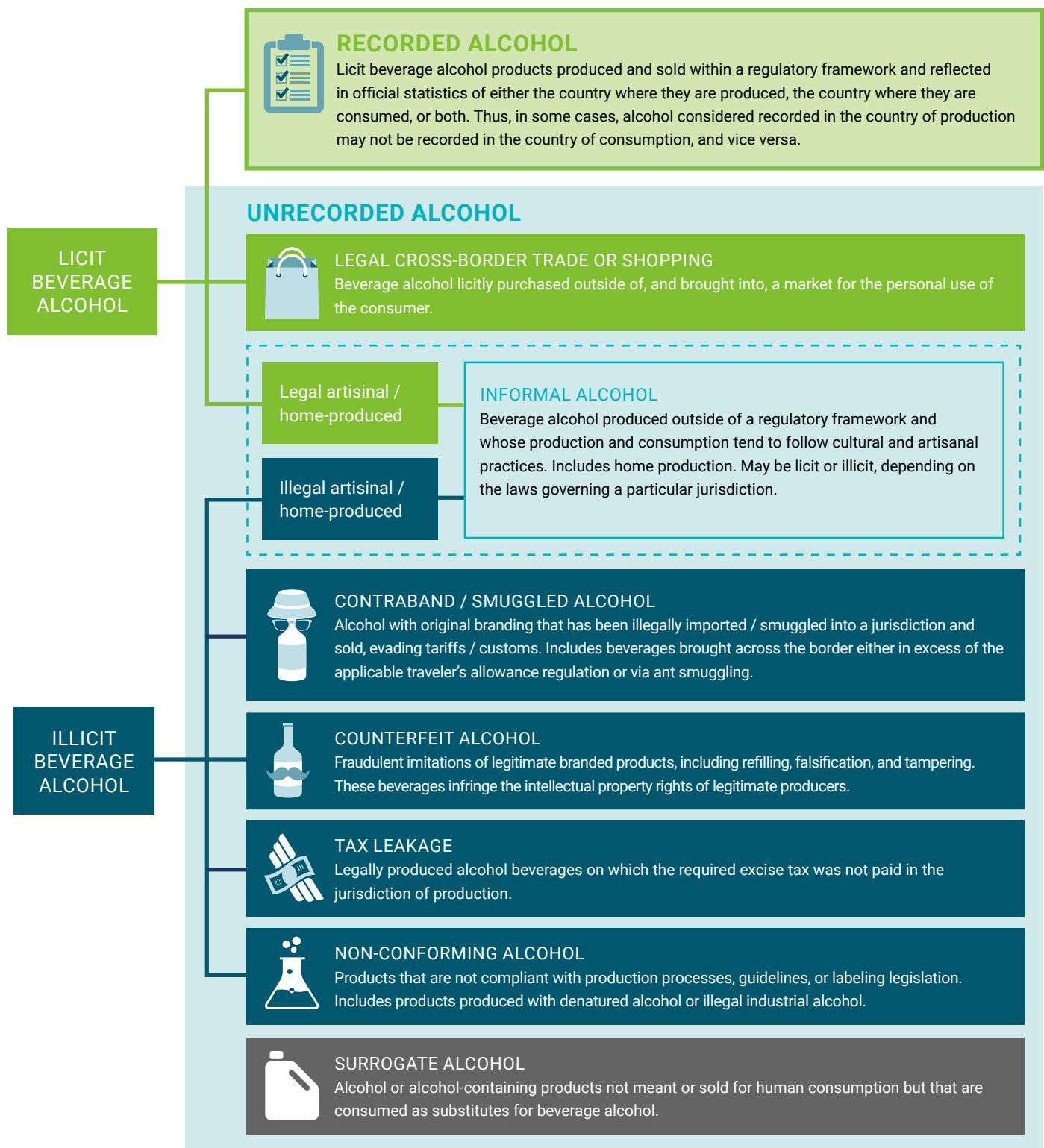
Table 1. Total and unrecorded per capita consumption in liters of pure alcohol and proportion of unrecorded to total alcohol consumption among adults (15+ years) by WHO region, 2005 and 2010

| WHO Region | Total APC | | Unrecorded APC | | Proportion of unrecorded to total (%) | |
|-----------------------|-----------|------|----------------|------|---------------------------------------|------|
| | 2005 | 2010 | 2005 | 2010 | 2005 | 2010 |
| Africa | 6.2 | 6.0 | 1.9 | 1.8 | 31.4 | 29.3 |
| Americas | 8.7 | 8.4 | 2.0 | 1.2 | 23.1 | 14.4 |
| Eastern Mediterranean | 0.7 | 0.7 | 0.4 | 0.4 | 56.2 | 54.5 |
| Europe | 12.2 | 10.9 | 2.7 | 1.9 | 21.9 | 17.1 |
| South-East Asia | 2.2 | 3.4 | 1.5 | 1.6 | 69.0 | 47.4 |
| Western Pacific | 6.2 | 6.8 | 1.6 | 1.7 | 32.2 | 25.1 |
| World | 6.1 | 6.2 | 1.8 | 1.5 | 28.7 | 24.8 |

Where they exist, estimates of the informal market are derived through a number of different approaches that vary in reliability and may be limited by the availability of required resources and available data in different countries.

- A comprehensive overview of these different methodologies is included in the IARD Unrecorded Alcohol Toolkit [3]. They include
 - surveys;
 - expert questionnaires;
 - store visits;
 - indirect calculations based on:
 - The gap between total consumption and recorded supply;
 - Sale of raw materials likely to be used for alcohol production – e.g., sugar, grains, or fruits; or
 - Search and seizure records.
 - calculations based on the indicators of alcohol-related harm (e.g., mortality from liver cirrhosis, alcohol poisoning, alcohol-impaired driving, and assaults that involved alcohol consumption by either perpetrator or the victim); or
 - a combination of strategies.

FIGURE 1. TAXONOMY OF THE ALCOHOL MARKET



Source: This taxonomy was developed as part of a collaborative effort among the following organizations: Anheuser-Busch InBev (ABI), Associação Brasileira de Bebidas (ABRABE), Brown-Forman, Cámara Nacional de la Industria Tequilera, The Commission of the Wine and Spirit Industry (CIVYL), Diageo, Euromonitor International, Heineken, The International Alliance for Responsible Drinking (IARD), Pernod Ricard, SABMiller, and spiritsEUROPE.

COMPOSITION OF THE UNRECORDED ALCOHOL MARKET

The composition of the unrecorded market varies by region, country, and community.

Artisanal or home-produced beverages account for much of unrecorded alcohol consumption in many regions, particularly in low- and middle-income countries [4, 5].

- These drinks often follow traditional and cultural production practices and are produced either for home consumption or for limited local trade. The production and trade of these beverages may be legal or illegal, depending on the country in question.
- Some examples of traditional beverages include the following:
 - *samogon*, a traditional spirit that can be home-distilled from grain, potatoes, and fruits, using sugar (*samogon* remains popular in Russia and other republics of the former Soviet Union [6-8]);
 - *chang'aa*, a distilled drink that is perhaps the predominant informal beverage of Kenya's poor. Also referred to as "kill-me-quick," it is made from a variety of grains and may be "fortified" with surrogates [4, 8]; and
 - *cachaça* or *pinga*, the national drink in Brazil, is available both legally and illegally. Unrecorded production of *cachaça* is estimated to be widespread, and the use of industrial alcohols to strengthen illicit *cachaça* has been reported [8, 9].

Counterfeit beverages do not conform to the formulation, integrity, or quality of the legal beverages they are intended to emulate, but are packaged as legitimate recorded products and may be sold as such.

- Counterfeiting takes three forms:
 - **substitution / refill**, when empty bottles of legitimate products are refilled with cheaper drinks in alcohol-serving establishments;
 - **falsification**, or the manufacture of fake packaging and / or liquid for local and international distribution; and
 - **tampering** with legitimate recorded products through the addition of ingredients or dilution.
- Counterfeiting of alcohol represents a significant economic loss of revenue from taxation to governments. The Institute of Economic Affairs estimates the United Kingdom is losing out on GBP £1.2 billion pounds per year in tax revenue due to counterfeit alcohol [10]. In India, the fiscal losses associated with illegal trafficking and counterfeiting of alcohol are estimated to be EUR €273 million [11].
- For producers of genuine brands, counterfeit products represent a threat to reputation, and a loss of profit, as well as a loss of wages and income to those working in the legal production of counterfeited brands.
- Poor law enforcement, inadequate legal protection for intellectual property, and corruption contribute to the existence of the counterfeit market.

While counterfeit alcohol is widespread in many countries, one analysis attributes its increased presence in the global supply chain to the rapid growth of e-commerce [11]. According to this analysis

- approximately 25% of products sold as imported spirits in China are thought to be counterfeit, and
- roughly 20% of wine that is consumed worldwide is counterfeit.

In some countries, the unrecorded market also includes products that are legally produced, but exit the formal supply chain and are illegally sold.

- This segment of the market constitutes "tax leakage" because it avoids taxes levied on legal products.
- According to estimates by Euromonitor, around 30% of the total unrecorded market in Russia consists of products in this category, also known as "third shift" products.

Surrogate alcohol includes liquids that contain ethanol or other alcohols but are not intended for drinking and may be toxic.

- Included in this category are medicinal compounds, industrial spirits, automobile products, and cosmetics. These products are required to include additives, such as methanol or compounds that alter taste, in order to discourage ingestion, a process called denaturation.

- Since denatured alcohol is exempt from excise tax, it is significantly cheaper than ethanol intended for beverage alcohol, and consumed by some poor and indigent.
- Consumption of surrogate alcohols is fairly widespread in some countries, particularly among problem drinkers of lower socioeconomic strata [12-15].
- In some cases, surrogate alcohols are added to home-produced drinks to increase beverage strength or improve taste [5, 16, 17].

DRIVERS OF THE UNRECORDED MARKET

Various economic, cultural, and social factors drive the production and consumption of unrecorded alcohol.

Production, distribution, and consumption of traditional alcohol drinks form an integral part of many cultures and can be significant in social terms.

- High-quality artisanal drinks are a prominent part of local culture, making their production and consumption a pillar of national pride [18].
- In South-East Asia, India, and Africa, traditional alcohol is an important part of local festivals, holidays, weddings, and funerals. It is also routinely given to guests as a show of welcoming [18, 19].

In some areas, traditional alcohol production is a home-based or communal activity that allows for flexible work hours and additional sources of income.

- Spent grain from alcohol making is fed to livestock, which in turn constitutes another important source of family income and contributes to the local economy [18].
- In Sub-Saharan Africa and India, informal alcohol production and local trade has traditionally provided a livelihood for the rural poor, particularly women, for whom it is often the primary means of supporting their families [20-22].

Some consumers of traditional alcohol believe it may have psychological and physical health benefits, although there is little scientific evidence to substantiate this perception.

- Perceived health benefits include relieving fatigue, keeping warm, aiding digestion, enhancing food, and when mixed with herbs, treating and / or preventing illness [18, 19].

Regardless of tradition or cultural significance, demand for many unrecorded beverages worldwide is primarily driven by the significant price differential between recorded and unrecorded products.

- Since unrecorded alcohol is untaxed, it is significantly less expensive than branded legal products [5, 12, 13, 16, 23-26].
- For example, in Sri Lanka, kasippu is on average four times cheaper than its locally-produced legal equivalent, arrack, and eight times cheaper than European-style legal beer [27].
- In Kenya, Russia, and Vietnam, legal alcohol brands generally sell for more than home produced drinks; specifically, in Vietnam, home produced drinks sell on average EUR € 0.30 - 0.50 less per liter than recorded products [18].

Restrictions on the availability of legal and branded products, such as licensing hours or restrictions on outlets that can sell alcohol also drive the consumption of unrecorded alcohol.

- Since it is not subject to regulation and traded either by private citizens or in illegal outlets, unrecorded alcohol is more readily available [28].

The production and consumption of unrecorded alcohol are closely linked with broader economic variables.

- There is evidence that, as income levels rise, production and consumption of unrecorded illegally-produced and surrogate alcohols diminish [29-33].
- Reports from a number of countries indicate that both production and consumption of unrecorded beverages tend to flourish during economic crises and political unrest, fueled by high unemployment, unmet consumer demand, inadequate legislation, corruption, and weak enforcement [7, 12, 34].
- Lack of economic and / or social stability has been linked to surrogate consumption, in particular [15].
- In high-income countries, only 8.5% of all alcohol consumed consists of unrecorded alcohol; whereas, in low- and lower middle-income countries, more than 40% of all alcohol consumed is unrecorded (See Table 2).

Table 2. Total and unrecorded per capita consumption in liters of pure alcohol and proportion on unrecorded to total consumption among adults (15+ years) by income group 2010

| Income Group | Total APC | Unrecorded APC | Proportion of unrecorded APC of total APC (%) |
|---------------------|-----------|----------------|---|
| Low-income | 3.1 | 1.9 | 31.4 |
| Lower-middle-income | 4.1 | 2.0 | 23.1 |
| Upper-middle-income | 7.3 | 0.4 | 56.2 |
| High-income | 9.6 | 2.7 | 21.9 |
| World | 6.2 | 1.8 | 28.7 |

OUTCOMES OF UNRECORDED ALCOHOL CONSUMPTION

Unlike *recorded* alcohol, unrecorded products are unregulated and not subject to stringent requirements and quality standards.

As a result, some unrecorded beverages may present increased health risks from:

- Presence of toxic compounds, whether due to denaturation, adulteration, or lack of control during beverage production and / or storage [35]; and
- High ethanol content (particularly in surrogate and adulterated drinks), facilitating intoxication and increasing risk for alcohol poisoning, and contaminated water supply [36, 37].

Chemical analyses of unrecorded products in a number of countries have yielded mixed results.

- Some studies find that such beverages are more likely than recorded products to contain chemical components associated with acute toxic effects, especially liver damage, alcohol poisoning, and cancer risk. These include lead [38-40], non-ethanol compounds (e.g., methanol), and long-chain alcohols [41-45].
- However, other studies find that unrecorded products generally have comparable volatile composition to recorded products [46, 47] and do not pose a higher toxic hazard or health risk beyond that linked to any ethanol intake [48-51].
- It has been suggested that any increased risk from unrecorded alcohol may be the result of higher-risk drinking patterns and not from the beverages themselves [52] or because those consuming unrecorded alcohol are more likely than the general population to exhibit problem drinking and be of lower socioeconomic status, with limited access to healthcare and other services [13, 27, 39, 53].

Production of counterfeit and other illegal beverages and illegal mass-production may pose health risks and threats to personal safety related to crime.

- For example, in the United Kingdom organized criminal gangs were found to be smuggling large quantities of counterfeit alcohol into the country [10].

There are additional important considerations with regard to the unrecorded alcohol market.

- Widespread counterfeiting results in consumer deception, loss of public confidence in legal products, and loss of government revenue [54, 55].

METHODOLOGICAL CONSIDERATIONS

No internationally accepted standard exists for quantifying the size of the unrecorded market or for estimating its health and social consequences.

- Studies vary greatly in terminology, scope, complexity, and scale.
- A lack of reliable and comparable data about the unrecorded alcohol market contributes to the limitations of official alcohol consumption figures in describing actual drinking behavior and outcomes, and in informing policy.
- This must be taken into account when assessing the reliability of the available data or making cross-country, and even cross-study, comparisons.
- Results of many studies rely on data from limited geographic and cultural areas; extrapolating results to the entire population is therefore difficult.
- Research on the quality of unrecorded beverages are weakened by small sample sizes, convenience sampling strategies, and limited geographic and demographic scope within countries.

The quantity of cheap unrecorded products is likely underreported in large-scale surveys, as the likely producers and consumers of such drinks – rural residents and individuals of lower socioeconomic status – may be hard to reach.

- Obtaining more representative sampling of unrecorded alcohol consumers and implementing comprehensive studies of both rural and urban populations may be difficult, as legal ramifications often discourage producers, sellers, and consumers of such beverages from participating fully.
- Any discussion of the unrecorded market must take into account the sensitivity of asking about stigmatized behavior (e.g., chronic drinking) and clandestine / illegal activities.
- Social and cultural gaps between the research team, healthcare providers, and the local population may further reduce the reliability of responses – for example, individuals from marginalized and impoverished communities may not be accustomed to interacting or speaking frankly to outsiders [53].

TERMS AND CONCEPTS

Terms and concepts regarding recorded and unrecorded alcohol are demonstrated in Figure 1. Taxonomy of the Alcohol Market (p. 3)

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Reviews

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IARD is a not-for-profit organization dedicated to addressing the global public health issue of harmful drinking. Our mission is to contribute to the reduction of harmful drinking and promote responsible drinking worldwide. This is a problem that requires new insights, urgent action, and open dialogue. Central to IARD's work is our role as Secretariat of the Beer, Wine and Spirits Producers' Commitments to Reduce Harmful Drinking.



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