

Alcohol Policy Network, Stockholm June 10th-12th 2009

AMPHORA Project

WP 7: Drinking Environments and Harm Reduction

Unrecorded Alcohol

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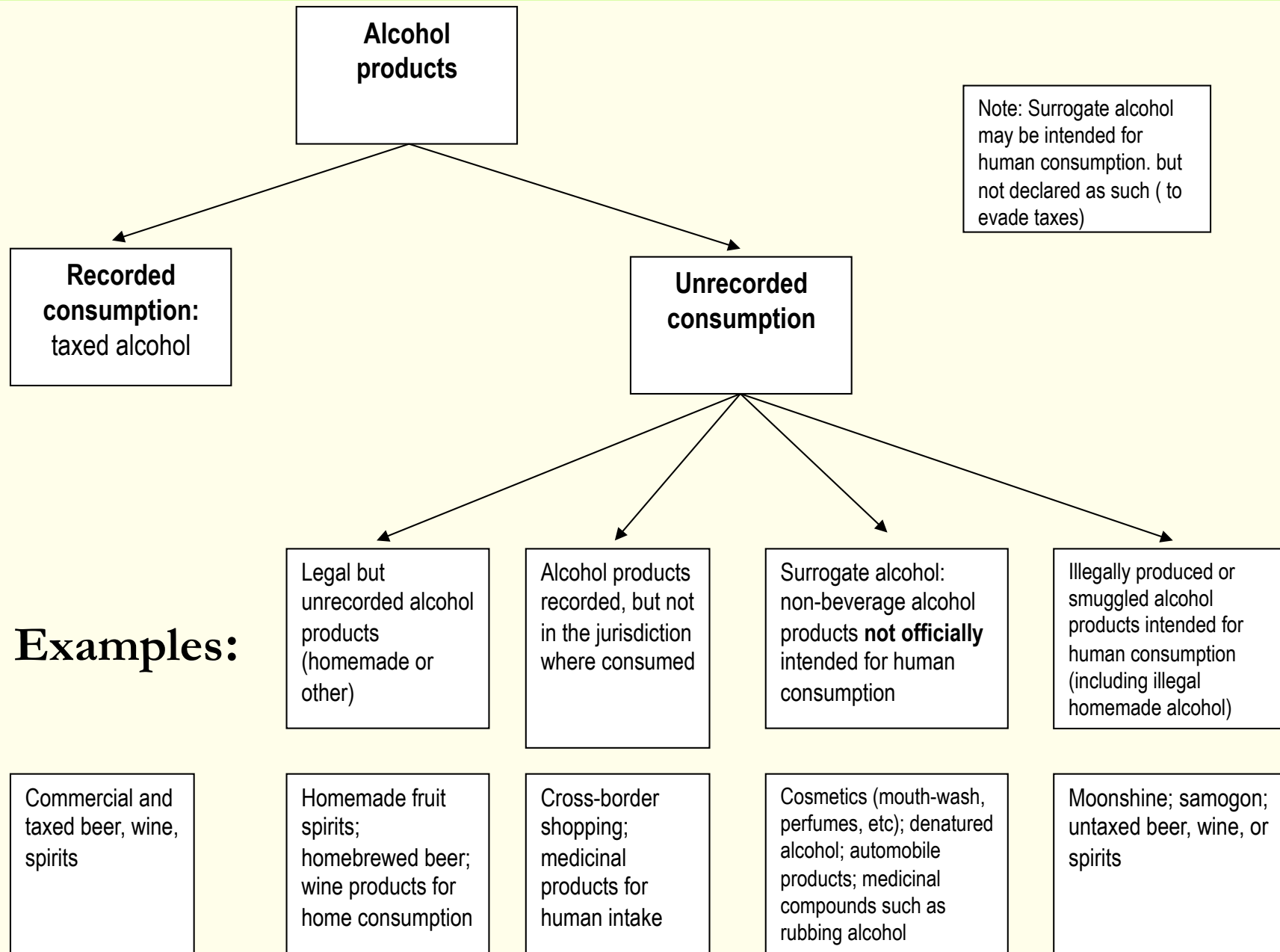
CHEMISCHES UND VETERINÄR-
UNTERSUCHUNGSAMT KARLSRUHE



What is unrecorded Alcohol?

- ‘Unrecorded’ is an overview category for any kind of alcohol that is not taxed as beverage alcohol or registered in the jurisdiction where it is consumed
- Examples include homemade products, surrogate alcohol (not officially intended for human consumption), or illegally produced alcohol

WHO Classification of alcohol products



What we already know

- Alcohol epidemiology has basically only measured two dimensions relevant to harm: volume and patterns (e.g. heavy drinking occasions)
- Composition and quality of alcohol has been mentioned only in spectacular outbreaks (e.g. Methanol poisonings)
- Estimation for 2002: 30% of global alcohol is unrecorded (in EU generally lower, but with a gradient being highest in the Baltic countries)

Hypotheses to be tested

- Compounds in unrecorded alcohol pose public health risk above the risk of ethanol alone
- Compounds other than ethanol can explain disproportionate mortality (e.g. from liver disease) in certain countries that cannot be attributed to volume/patterns of drinking alone
- Ethanol may be generally contained in higher concentrations in unrecorded compared to recorded alcohol (leading to more pronounced alcohol poisoning and chronic effects)
- Synergistic effects of different compounds with ethanol: Many of the suspected compounds are also liver toxic (especially acetaldehyde, coumarin, phthalates, ethyl carbamate)

Methodology for Chemical Analysis

- We want to test unrecorded alcohol for a diverse range of health-relevant compounds (including ethanol, methanol, acetaldehyde, higher alcohols, heavy metals, ethyl carbamate, biologically active flavourings, and phthalates)
- Validated spectroscopic and chromatographic methods (FTIR, GC/MS, LC/MS, ICP/MS) will be used

Pilot Studies on Chemical Composition of Unrecorded Alcohol

Limited samplings (n=2–50) in:

Nigeria, Mexico, Lithuania, Hungary,
Guatemala, Poland, Vietnam, India, Brazil,
Ukraine, Dominican Republic

Results from pilot studies

- Generally: most samples were OK
- Ethanol: Regularly in higher concentrations than in recorded spirits (i.e. > 40% vol)
- Acetaldehyde problematic in Guatemala and Mexico
- Recent risk assessment has shown that acetaldehyde outside ethanol metabolism poses a public health risk above ethanol effects alone (but this is not restricted to unrecorded)
- Ethyl carbamate in certain fruit spirits in Hungary & Poland (but also in legal fruit spirits, ethyl carbamate is seen as health risk by JECFA/EFSA)
- Flavorings (e.g. hepatotoxic coumarin) in cosmetic surrogates in Lithuania
- Diethyl phthalate in surrogates from Lithuania

Aims of AMPHORA regarding unrecorded

- First systematic overview on the compounds in unrecorded alcohol from all EU countries
- Identification of relevant compounds that may be evaluated in larger surveys on national level
- Establishment of toxicological guidelines for compounds in alcohol that can also be used by alcohol control laboratories for recorded alcohols
- Strategies for improving the protection of consumers of unrecorded alcohol in Europe, e.g. by suggesting guidelines for alcohol policy

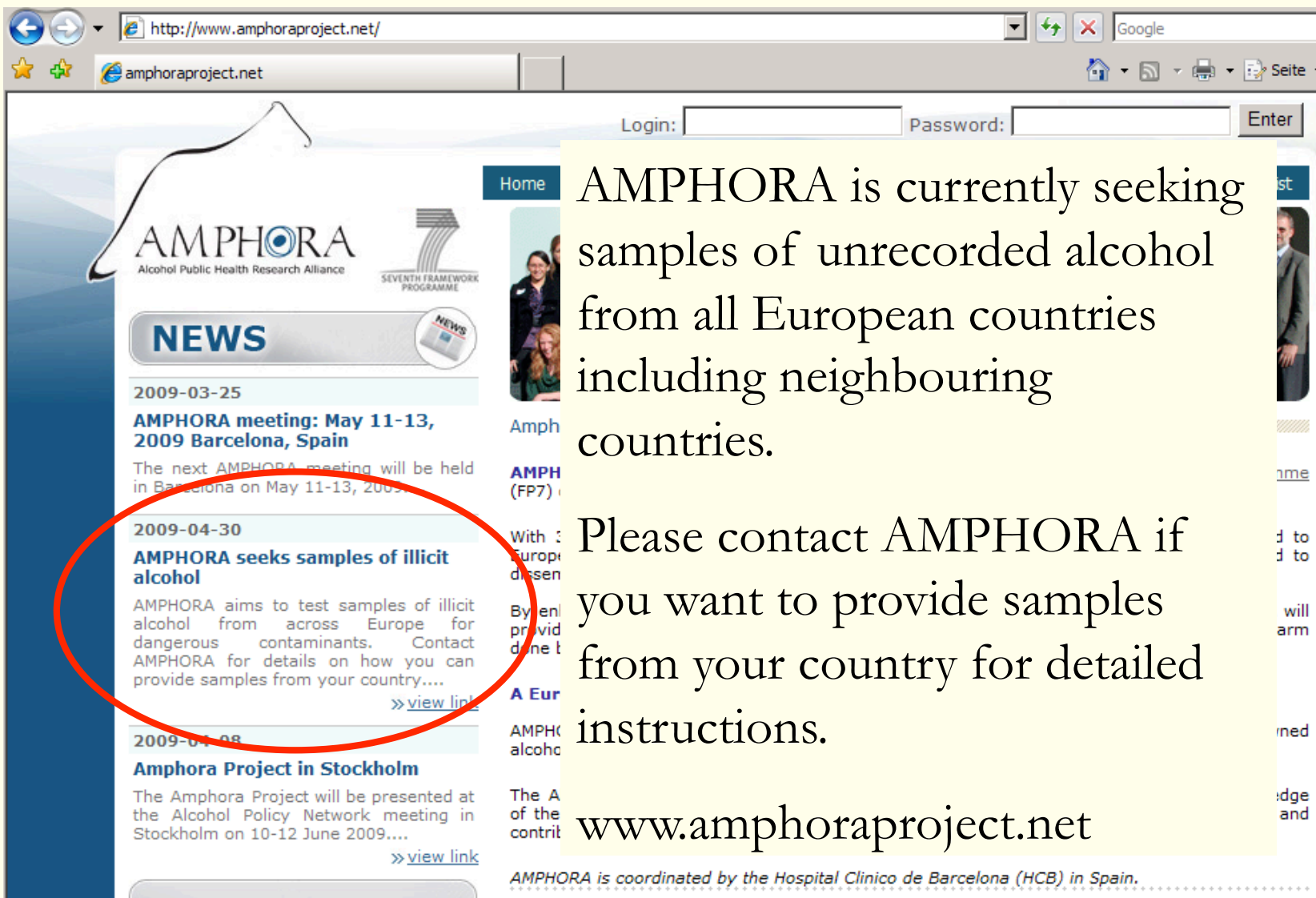
Contribution to alcohol policy

- If unrecorded alcohol contains toxic components not found in recorded alcohol: additional measures should be taken
- Measures might range from legalizing unrecorded with subsequent quality control to instructing the producers of unrecorded how to avoid the problems detected
- Unsuitable compounds used to denature alcohol should be forbidden, these especially include methanol and diethyl phthalate (which both cannot be tasted in alcohol)

First Results from AMPHORA

- 3 Samples of fruit spirits („plum brandy“) from Romania: Extremely high contamination with ethyl carbamate (1.70, 1.78 and 1.92 mg/L)
- Ethyl carbamate is carcinogenic (IARC 2A) and liver toxic
- The European Food Safety Authority indicated that ethyl carbamate is a health concern even for a median concentration of 0.24 mg/l in European fruit spirits
- Limit in some countries is 0.40 mg/l for fruit spirits (currently no limit in European legislation)
- Romania: Anomalously high rates of death attributable to liver cirrhosis. Causality with unrecorded consumption or ethyl carbamate?

Open public call for samples



The screenshot shows the AMPHORA website with a news article titled "AMPHORA seeks samples of illicit alcohol" dated 2009-04-30. The article text is circled in red. The website header includes the AMPHORA logo, a login field, and a password field. The article text is as follows:

AMPHORA seeks samples of illicit alcohol

AMPHORA aims to test samples of illicit alcohol from across Europe for dangerous contaminants. Contact AMPHORA for details on how you can provide samples from your country....

[» view link](#)

AMPHORA Project in Stockholm

The Amphora Project will be presented at the Alcohol Policy Network meeting in Stockholm on 10-12 June 2009....

[» view link](#)

AMPHORA is currently seeking samples of unrecorded alcohol from all European countries including neighbouring countries.

Please contact AMPHORA if you want to provide samples from your country for detailed instructions.

www.amphoraproject.net

AMPHORA is coordinated by the Hospital Clinico de Barcelona (HCB) in Spain.

Sampling

- We ask all APN members for sending samples!
- Please send us 5-10 samples of unrecorded alcohol from your country.
- See our “Sampling Instruction Sheet” as well as “Sampling Protocol” that should be submitted along with the samples

What kind of samples we are seeking?

- We exclusively want to test unrecorded alcohol (see Annex I). Please do not sample recorded (taxed) alcohol. Samples should be chosen using the following guidelines:
- Choose **only unrecorded alcohol clearly intended for human consumption** (i.e. no after-shaves or similar products sold in drug stores clearly not for human consumption)
- Please provide a minimum of 100 mL per sample (300 mL would be preferred)
- We can analyze 5-10 samples from each country
- Choose locations (e.g. local farmers and flea markets) most likely to be selling unrecorded alcohol to people of lower socioeconomic status or alcohol dependent people
- Focus on collecting products that could be contaminated (e.g. surrogate alcohols: non-beverage alcohol sold for human consumption)
- Focus on products based on stone-fruits (e.g., plums, cherries) for likely contamination with ethyl carbamate
- Focus on home produced/home distilled spirits

Where and how should the samples be sent?

- Please complete and include a sampling protocol (template at Annex 2)
- If possible provide the samples in the original bottles (plastic bottles affect test results)
- If you must rebottle the sample in plastic bottles, please provide one of the original (empty) bottles for comparison
- Carefully package glass bottles to avoid breakage during transport, prevent leakage with additional sealing e.g., with adhesive tape, Parafilm M® or similar all-purpose laboratory films
- Send to our address as normal postal package
- Normally there should be no special requirements for sending samples inside the European Union (no customs or tax). If problems arise please contact us per E-Mail and we can provide tax and customs forms etc.
- Please inform us by E-Mail of every package sent to our institute
- If necessary, we can reimburse the cost for the samples and transportation. On request, we could grant a compensation (50-100 EUR) for the person taking the samples (e.g. send students of your institute?)

Annex 2: Sampling protocol



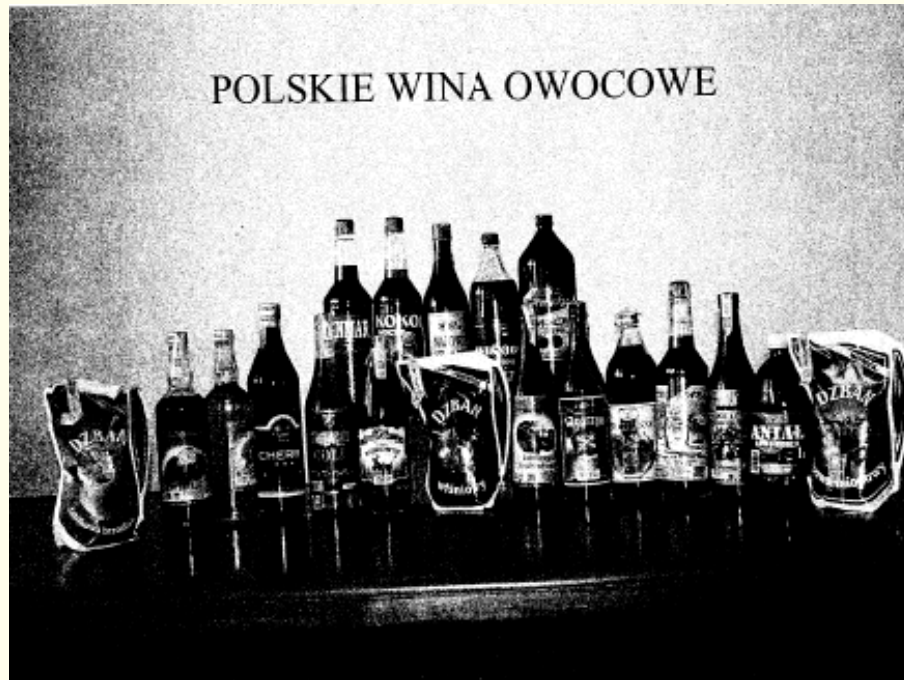
Annex 2: Sampling Protocol

Please inform us of every package sent to our institute to Email: Lachenmeier@web.de

Contact person Name: Institution:		Email: Telephone:	Country of Sampling
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#	Unique Sample ID (also state on all bottles)	Sample location (city, site, form of retailer, market)	Time & date of sampling	Description (name, category of beverage, original vessel size including English translation*)	List of ingredients/raw materials and alcohol content in %vol. (if known or provided by the seller)*	Price per litre (EURO)	Peculiarities and observations about the samples Suspicions on contamination of product*
1							
2							
3							

Sampling in Poland



VB Magen bitter
Produkt : ANTAŁ ŻOLĄDKOWY GORZKI

Producent : Ostrowin Sp. Z.O.O.
ul. Spichrzowa 10
63-400 Ostrów Wielkopolski

Zawartość składników

Skład: fermentowany napój winopodobny owocowy, cukier E-330-regulator kwasowości, sacharynian sodu-substancja słodząca, aromat, wyciąg ziołowy, E-150d - barwnik, E202 -substancja konserwująca, dwutlenek siarki - przeciwutleniacz. Zawiera cukier i substancje słodzące.

Zawartość alkoholu : (podano na etykiecie) – 11%

Opakowanie : plastikowe 1 l

Cena: 4,80 zł.

Antal bitter

Sorbitol

Thanks for your attention



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