

## **Annex 1: Search strategy and key findings of literature review on patterns and determinants of youth alcohol consumption**

Search strategy:

As a first step, the author reviewed a number of articles/reviews sent to him by the experts/people knowledgeable on the subject. This initial list contained more than 30 sources. Next, the author conducted Pubmed and Google scholar searches, using the following strategy:

### **1) Pubmed:**

((("alcohol drinking"[MeSH Terms] OR ("alcohol"[All Fields] AND "drinking"[All Fields]) OR "alcohol drinking"[All Fields]) AND ("young adult"[MeSH Terms] OR ("young"[All Fields] AND "adult"[All Fields]) OR "young adult"[All Fields] OR ("young"[All Fields] AND "adults"[All Fields]) OR "young adults"[All Fields])) AND systematic[sb] 59 results

((("alcohol drinking"[MeSH Terms] OR ("alcohol"[All Fields] AND "drinking"[All Fields]) OR "alcohol drinking"[All Fields]) AND ("young adult"[MeSH Terms] OR ("young"[All Fields] AND "adult"[All Fields]) OR "young adult"[All Fields] OR ("young"[All Fields] AND "adults"[All Fields]) OR "young adults"[All Fields])) AND Review[ptyp] 147 results

"alcohol drinking"[MeSH Terms] AND "adolescent"[MeSH Terms] AND (Review[ptyp] AND English[lang] AND ("1990"[PDAT] : "2011"[PDAT])) 297 results

"alcohol drinking"[MeSH Terms] AND "adolescent"[MeSH Terms] AND (English[lang] AND systematic[sb] AND ("1990"[PDAT] : "2011"[PDAT])) 113 results

((("alcoholic beverages"[MeSH Terms] OR ("alcoholic"[All Fields] AND "beverages"[All Fields]) OR "alcoholic beverages"[All Fields]) AND ("adolescent"[MeSH Terms] OR "adolescent"[All Fields] OR "adolescents"[All Fields])) AND (Review[ptyp] AND English[lang] AND ("1990"[PDAT] : "2011"[PDAT])) 40 results

((("ethanol"[MeSH Terms] OR "ethanol"[All Fields] OR "alcohol"[All Fields] OR "alcohols"[MeSH Terms] OR "alcohols"[All Fields]) AND ("marketing"[MeSH Terms] OR "marketing"[All Fields]) AND ("adolescent"[MeSH Terms] OR "adolescent"[All Fields] OR "adolescents"[All Fields])) AND (Review[ptyp] AND English[lang] AND ("1990"[PDAT] : "2011"[PDAT])) 31 results

The studies were screened by reviewing the abstracts in each identified reference. When promising, an attempt was made to download the whole article. When it was not possible (in a very small minority of cases), the author attempted to extract as much information from the abstract as possible. When the whole article or review was downloaded, the author studied its whole content.

In the next step, the author went through all systematic literature reviews on the subject, referring to specific articles when more information was needed. On a number of occasions, the author also looked at specific articles that either were not mentioned in the reviews, or had additional information in them which was not contained in the reviews. As a final step, additional references mentioned in identified articles were sometimes looked for through Google Scholar. The findings were limited to English speaking sources only. Only sources dating from 1990 till now were selected.

## Key findings:

### a) Determinants of youth alcohol consumption:

- Surprisingly, in many studies, a positive association between individual and family socio-economic status (including income and education), and adolescent as well as later adult alcohol consumption, was found.
- There is considerable evidence that parental provision and attitude to alcohol may affect adolescent alcohol consumption. In addition, family structure as well as presence of a supporting family environment appear to be important determinants.
- The positive link between advertising and adolescent alcohol consumption seems to be well-established, although the effect of advertising bans is less clear.
- The effectiveness of alcohol control policies on consumption is mixed (although there is more evidence on the effect of changes in the MLDA laws).
- Outlet density, as well as general availability of alcohol are correlated with alcohol consumption/ alcohol related morbidity and mortality.
- Peer pressure was found in some recent work (including experimental research) to have significant effect on young people's alcohol consumption.
- Alcohol prices and taxes were in general found to have the predicted effect on adolescent consumption. Effect of alcohol price increases (e.g. through taxes) appeared stronger than the effect of prices themselves.
- As a rule, beer was found to have the smallest price elasticity of demand. In addition, the young also had the lowest elasticity of demand relative to other age group, probably because a large proportion of income spent on beer (although this finding was not uniform across studies).
- **The evidence on the effectiveness of alcopop taxes is mixed. Even where there was evidence of some alcopop consumption decrease after prices were raised, it is possible that the affected drinkers simply switched to some other drinks (without affecting total alcohol consumption).**
- Self regulation of sales and marketing of alcohol to adolescents is ineffective.

### B) Methodological concerns and recommendations for further research:

- One potential issue with ESPAD survey findings in 2007 is the change in methodology for some indicators compared to the previous survey. For example, in 2007, definition of heavy episodic drinking was changed to include alcopops and cider. However, the authors of the report argued that a test of new and old versions of a questionnaire in eight countries revealed no significant differences in results.
- Another problem with both ESPAD and HBSC surveys is that they only apply to certain age groups (11,13 and 15 years for HBSC survey, and 15-16 years for ESPAD). On the other hand, the general definition of young people encompasses people aged up to 24 (or even 29) years. Therefore, our results are necessarily limited, at least as far as the trends part of our review is concerned. In addition, findings often applied to the young age group, but were not specific to them. Finally, quite a few studies were conducted on the population rather than individual level, which may lead to missing the identification of the age-specific effect.
- **The ESPAD survey focused on the trends in the consumption of beer, spirits, wine, alcopops and ciders. In the survey, alcopops were defined as pre-mixed drinks with an alcohol content of about 5%. However, there is a broader class of alcoholic beverages which may have a particularly high appeal to minors (e.g., wine coolers, designer drinks,**

alcohol-containing foods) not covered in the survey. However, because of data limitation reasons, it was not possible to include this information in this review in any detail.

- **The great majority of literature covered the determinants of general alcohol consumption among minors, with very few articles devoted specifically to studying the determinants of consuming ABPPAM (with the exception of the effectiveness of alcopop taxes). To the extent that ABPPAM truly constitute a drink class with qualities that make them markedly different from more traditional beverages, this is a literature gap that will need to be addressed in the future.**
- In many studies, alcohol consumption was self-reported, which may introduce systematic measurement error. A related issue is that certain determinants may have been measured with error, which may lead to a downward bias. For example, advertising exposure was often measured by the amount of expenditure, which may be too crude an indicator.
- Many studies were conducted outside of the European Union. In the great majority of cases, they were conducted in high-income countries, but there can still be geographic and cultural factors which may limit their applicability to the European Union.
- In general, control for potential confounding was rare in the majority of reviewed studies. Cross sectional design is common, as are small samples. Some promising approaches to deal with unobserved confounding included using longitudinal data with individual fixed effects, as well as applying innovative instrumental methodology. A few studies used experimental designs.
- Cost effectiveness studies are still rare, which is another considerable gap in the literature identified in this review. Even the most effective strategies may incur substantial cost, which must be taken into account for policy-making purposes.