

# Alcohol and HIV: epidemiology in Africa & research updates

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Social science that makes a difference

## Slide 1

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lcsimbayi, 2011/03/27



# Outline of presentation

- **Introduction**
- **Summary of main findings from the systematic reviews**
- **Conflicting evidence from ecological data**
- **Conclusions**



# Introduction

- **Until recently alcohol use and drunken behaviour was neither acknowledged nor well documented as a contributing factor to the HIV/AIDS epidemic.**
- **However, the situation has been changing.**
- **This is because there is an increasing amount of research that is being conducted on HIV/AIDS and alcohol, and the connections between the two have become gradually clearer also from a scientific perspective.**



## Introduction (contd)

- **Indeed, it is important to acknowledge from the start that like elsewhere in the world, alcohol use is often associated with sexual risks in Southern Africa.**
- **However, unlike anywhere else, the implications of alcohol use on risks for HIV infection are greatest in southern Africa because HIV prevalence rates are highest in the region.**



## **Introduction (contd)**

- **In this presentation I will present some of the available research evidence contributing towards our current understanding of the relationship between alcohol use and HIV.**



# Outline of presentation

- **Introduction**
- **Global HIV prevalence and Incidence**
- **Global alcohol use**
- **Alcohol use and HIV – is there a link?**
- **Conflicting evidence from ecological data**
- **Conclusions**



# Introduction

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## Introduction (contd)

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- However, unlike anywhere else, the implications of alcohol use on risks for HIV infection are greatest in southern Africa **because HIV prevalence rates are highest.**



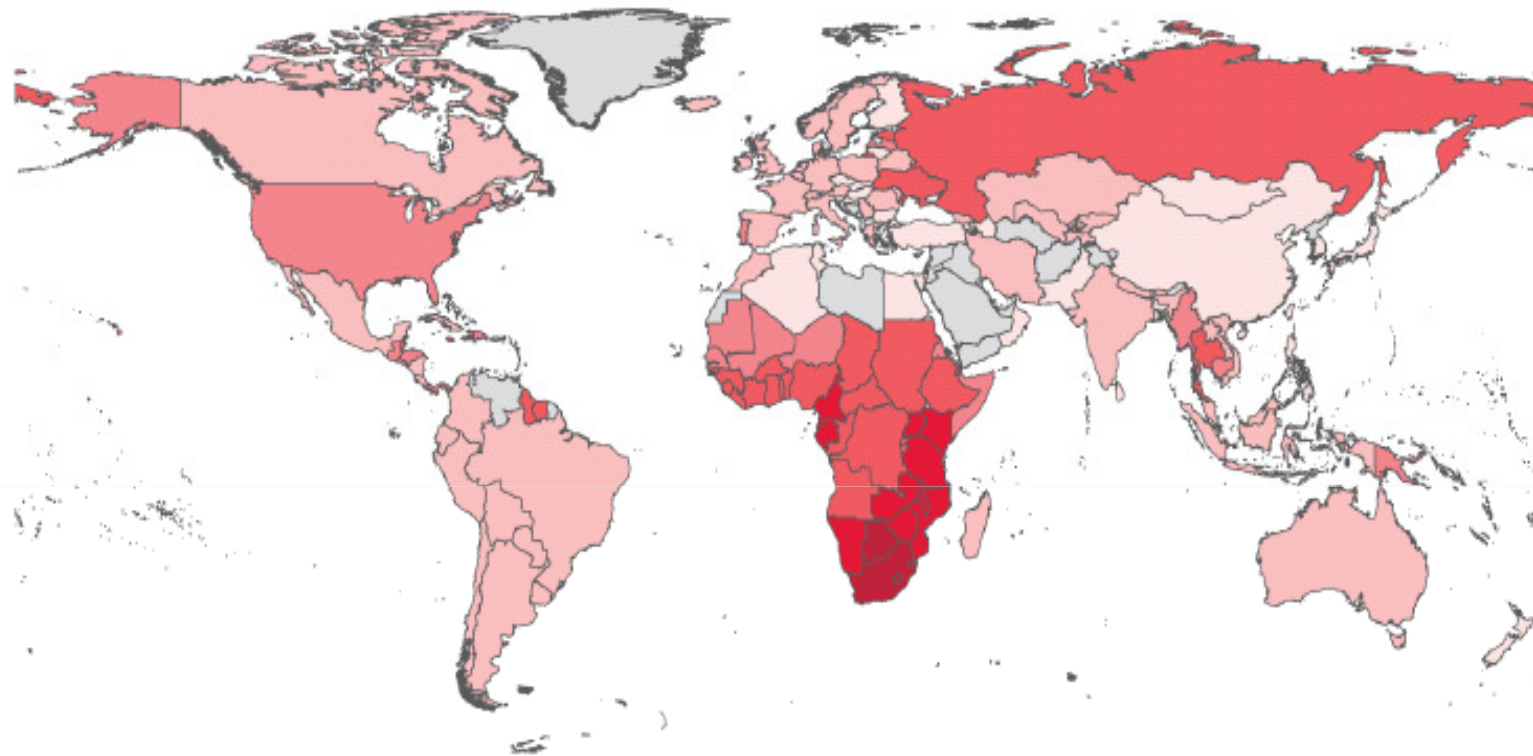
# Introduction (contd)

- **In this presentation I will present some of our current understanding of the association between alcohol use and HIV.**
- **It seems worthwhile to start by comparing alcohol use and HIV prevalence in the world in order to begin to see if we can indeed describe the existence of a relationship between the two phenomena in Africa.**



# Global HIV Prevalence and Incidence

# Global prevalence of HIV, 2009

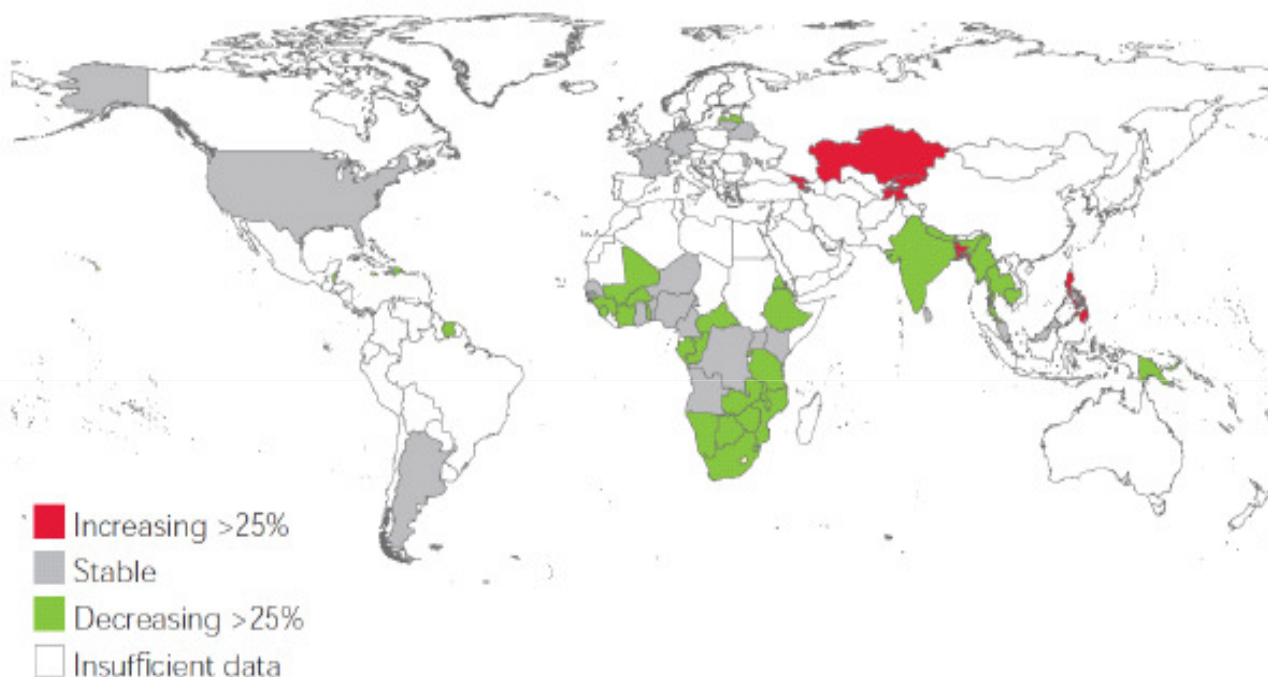


■ No data   ■ < .1%   ■ .1% - < .5%   ■ .5% - < 1%   ■ 1% - < 5%   ■ 5% - < 15%   ■ > 15% - 28%

Source: UNAIDS.



# Changes in the incidence of HIV infection, 2001 to 2009



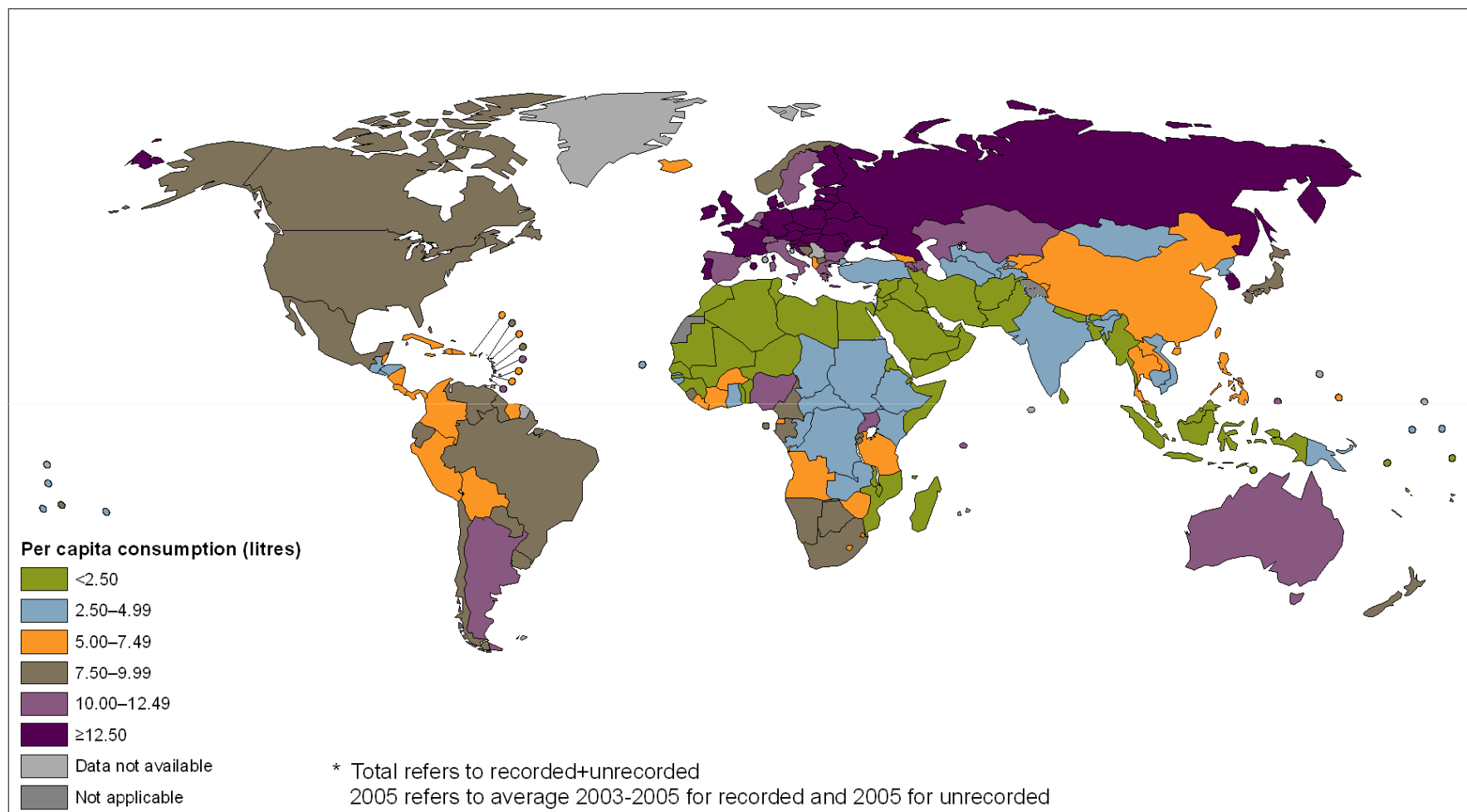
To assess changes in incidence, the estimated national incidence rate was compared between 2009 and 2001. Countries with a change (decrease or increase) in the incidence rate of 25% or more during this period were identified. In most cases, the assessment was based on EPPISpectrum modelling results (1,2). For selected countries, published analyses of country-level incidence were also used. The EPPISpectrum criteria for including countries in this analysis were as follows. EPP files were available and trends in EPP were not derived from workbook prevalence estimates; prevalence data were available up to at least 2007; there were at least four time points between 2001 and 2009 for which prevalence data were available for concentrated epidemics and at least three data points in the same period for generalized epidemics; for the majority of epidemic curves for a given country, EPP did not produce an artificial increase in HIV prevalence in recent years due to scarcity of prevalence data points; data were representative of the country; the EPPISpectrum-derived incidence trend was not in conflict with the trend in case reports of new HIV diagnoses; and the EPPISpectrum-derived incidence trend was not in conflict with modelled incidence trends derived from age-specific prevalence in national survey results.

Source: UNAIDS.



# **Global alcohol use**

## Total adult per capita consumption of pure alcohol (in litres), 2005\*



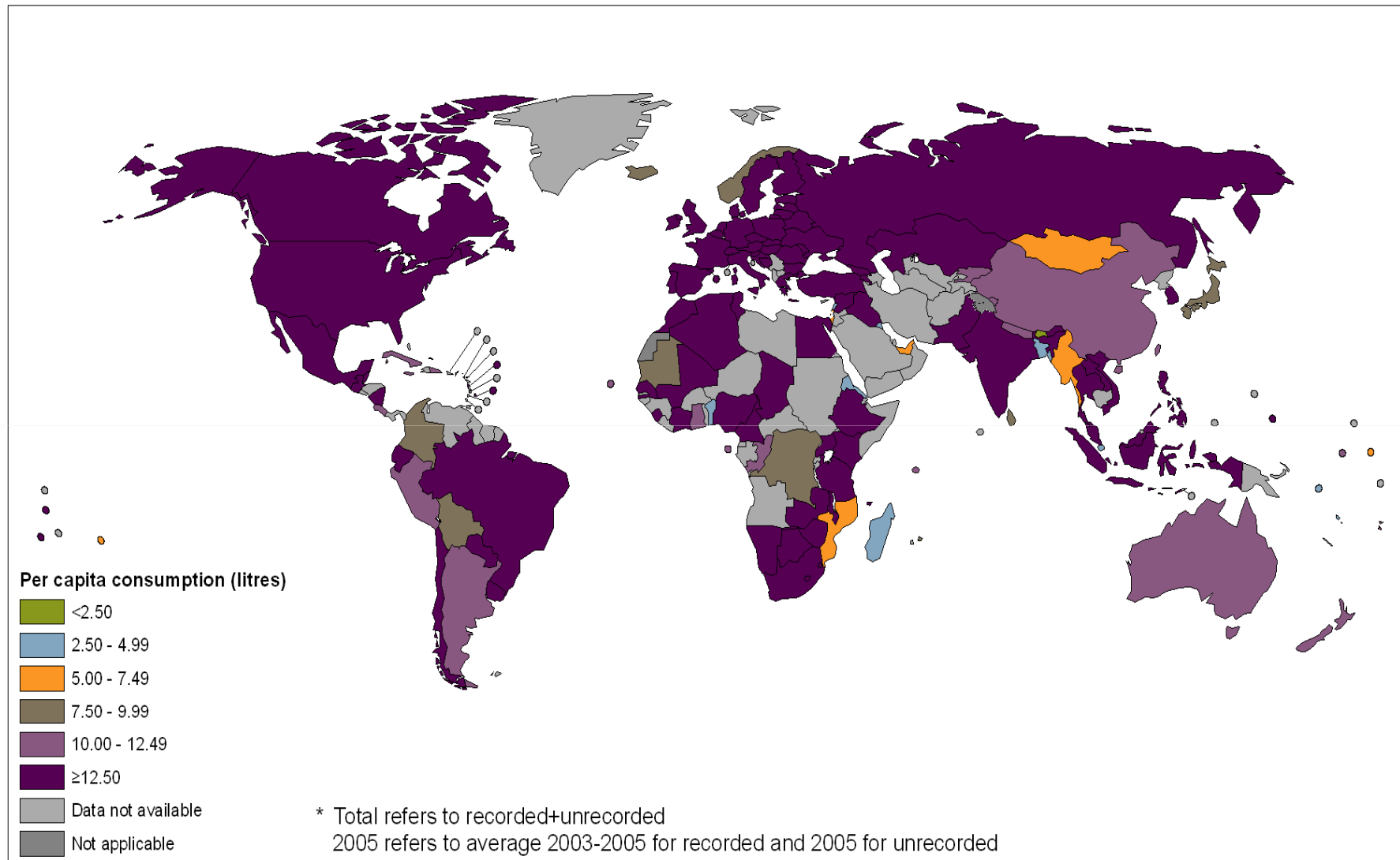
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## Total adult per capita consumption of pure alcohol (in litres) among drinkers, 2005\*



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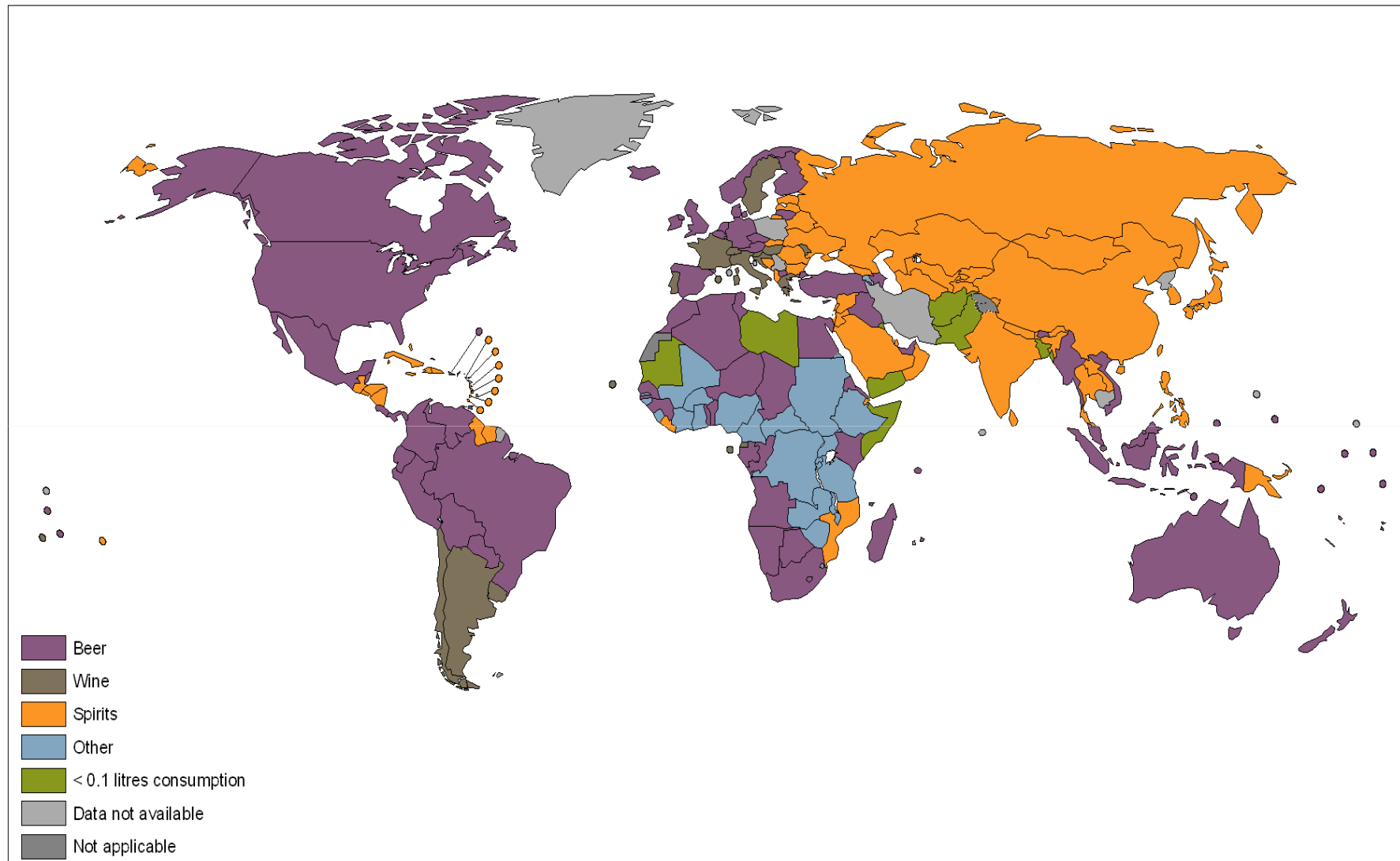
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## Most consumed alcoholic beverage in terms of litres of pure alcohol, 2005



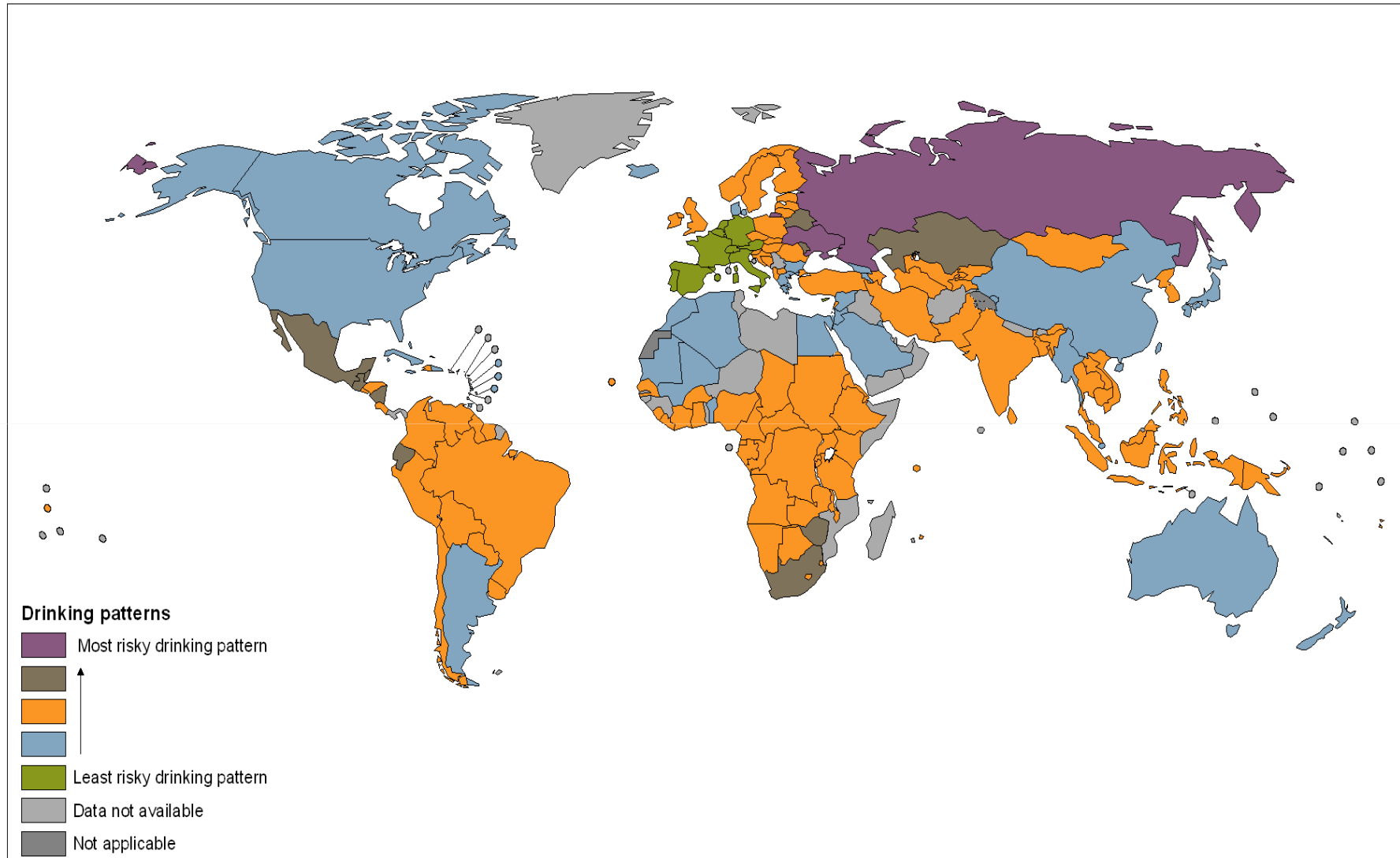
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## Patterns of drinking score, 2005



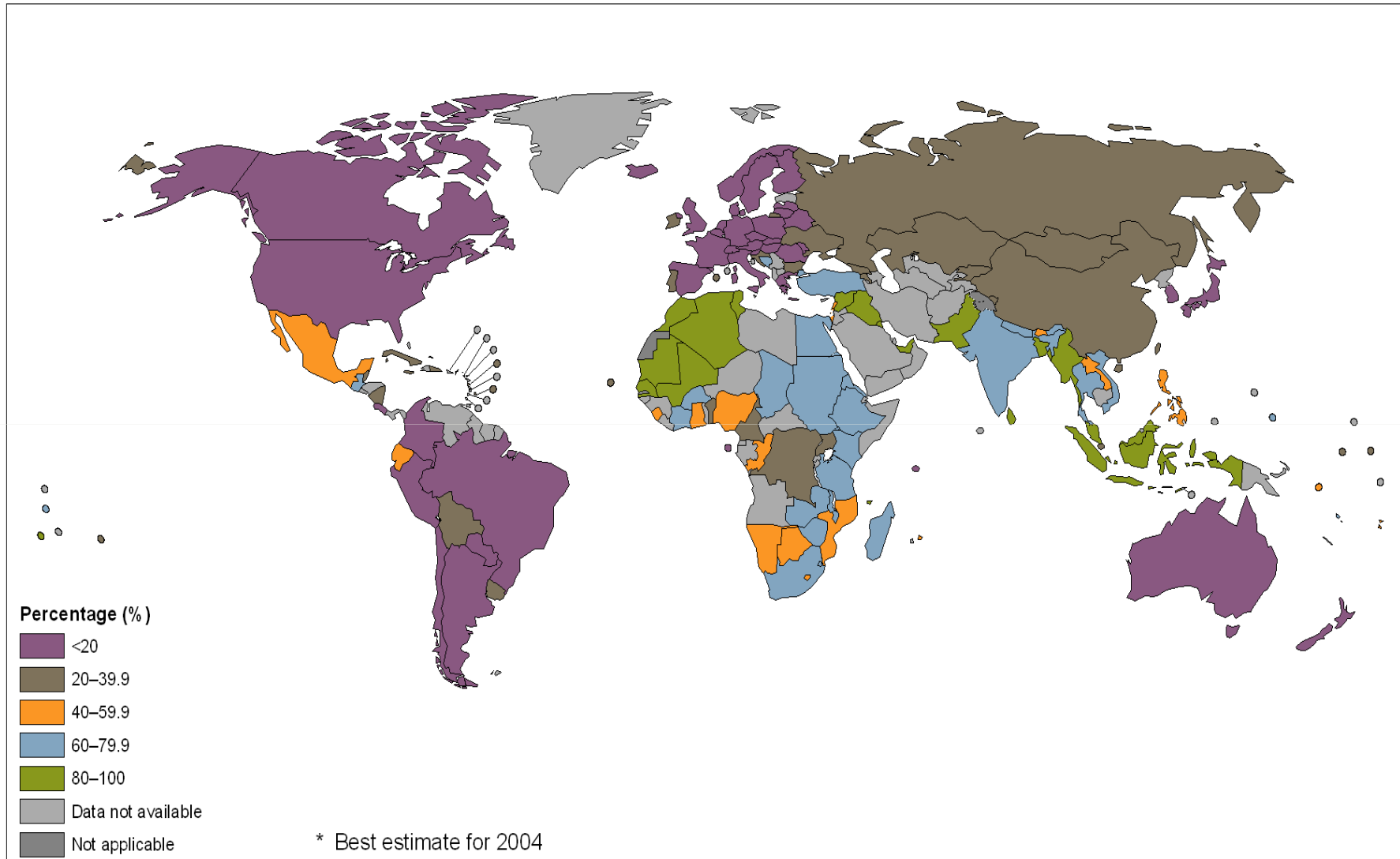
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## Total of lifetime abstainers, 2004\* (%)



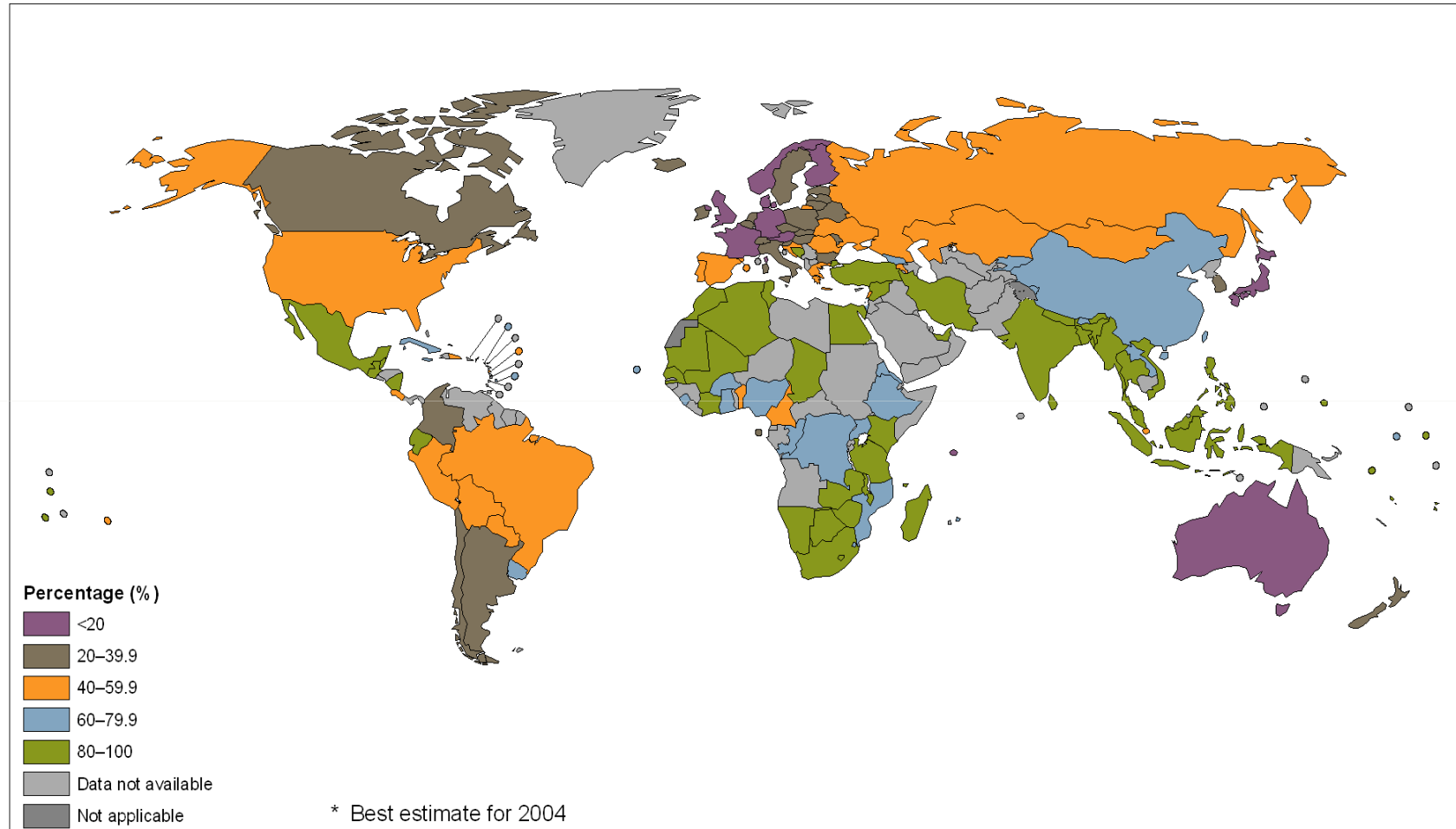
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## Abstainers, past 12 months, females, 2004\* (%)



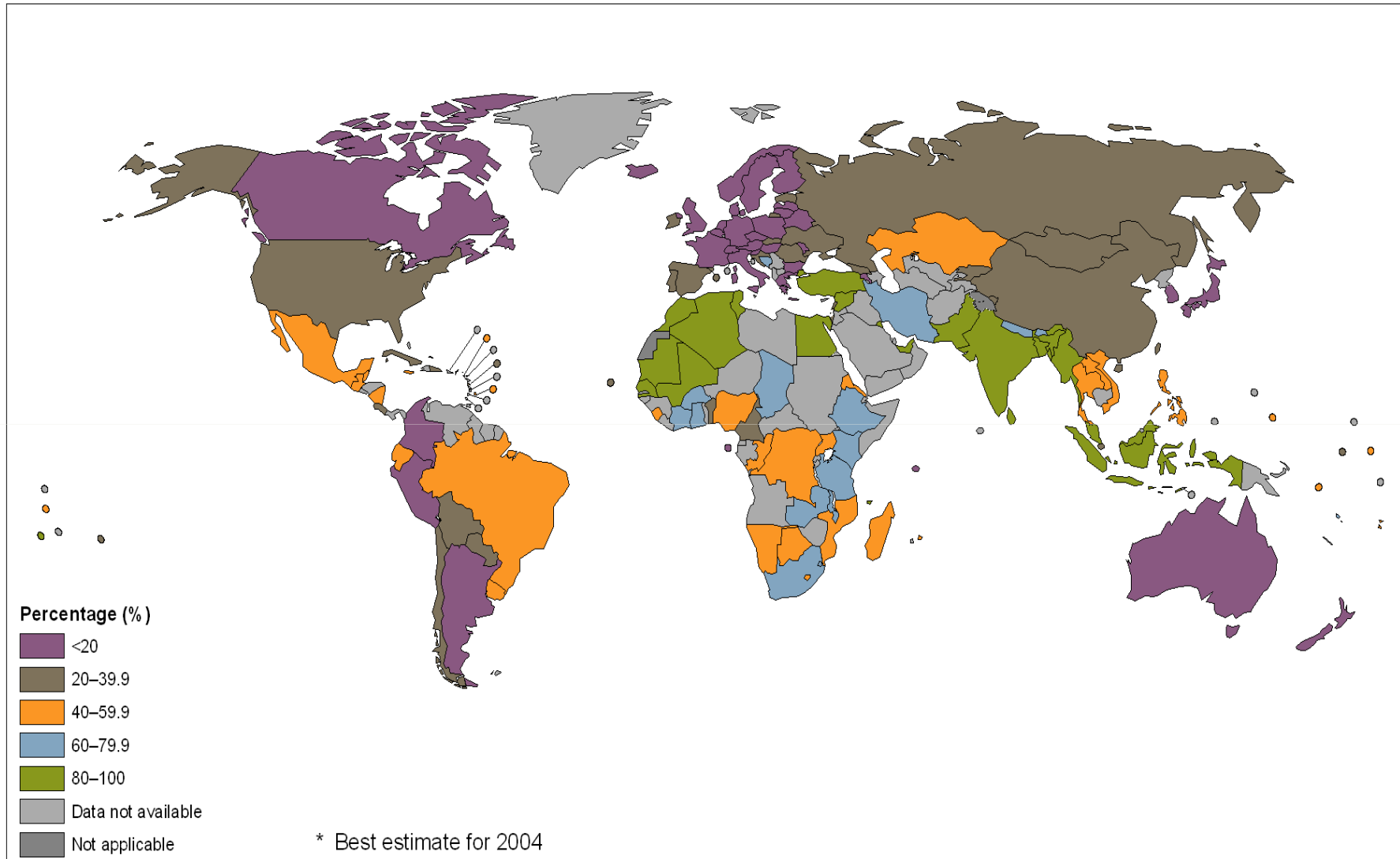
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## Abstainers, past 12 months, males, 2004\* (%)



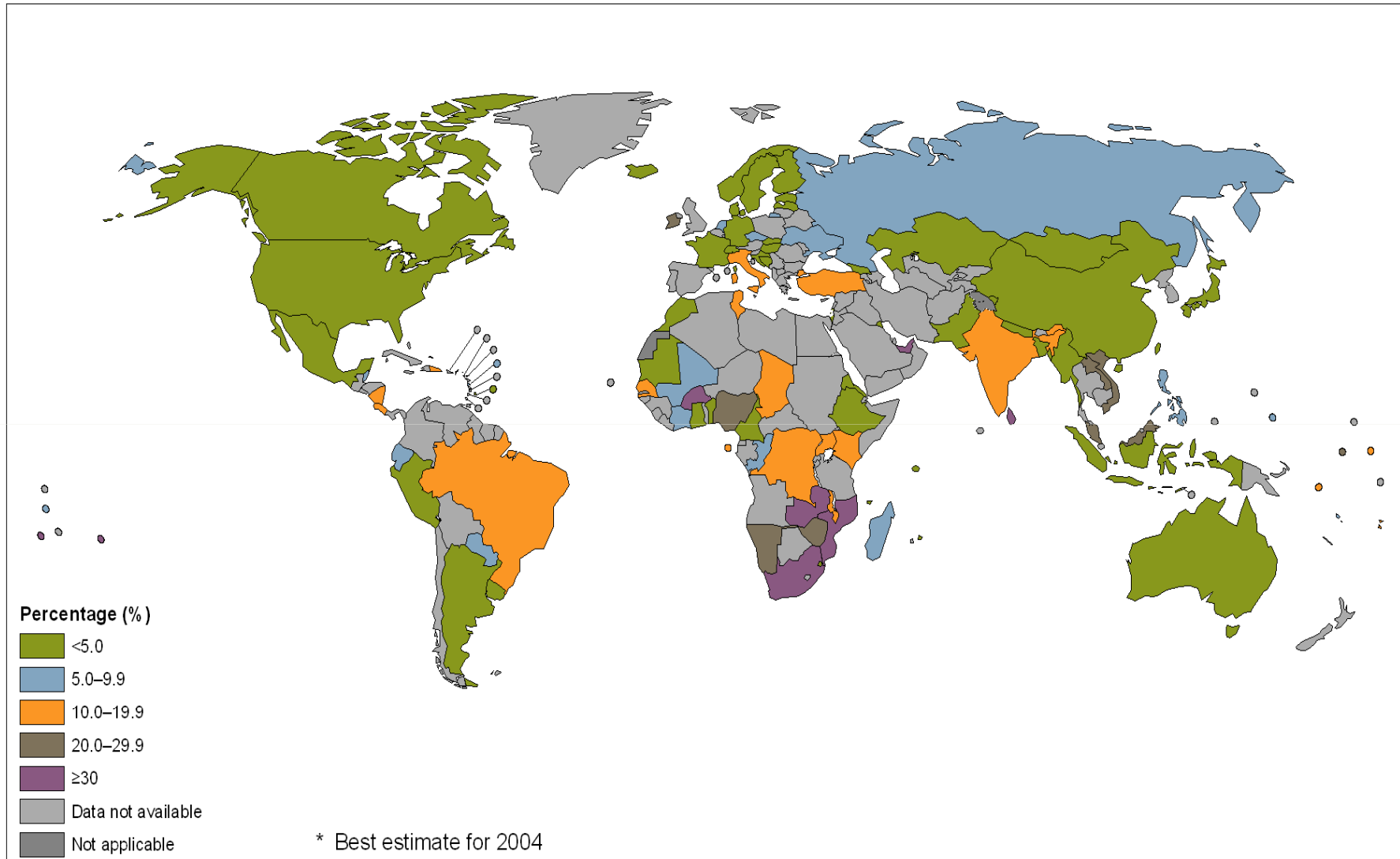
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## Heavy episodic drinkers among drinkers, females, 2004\* (%)



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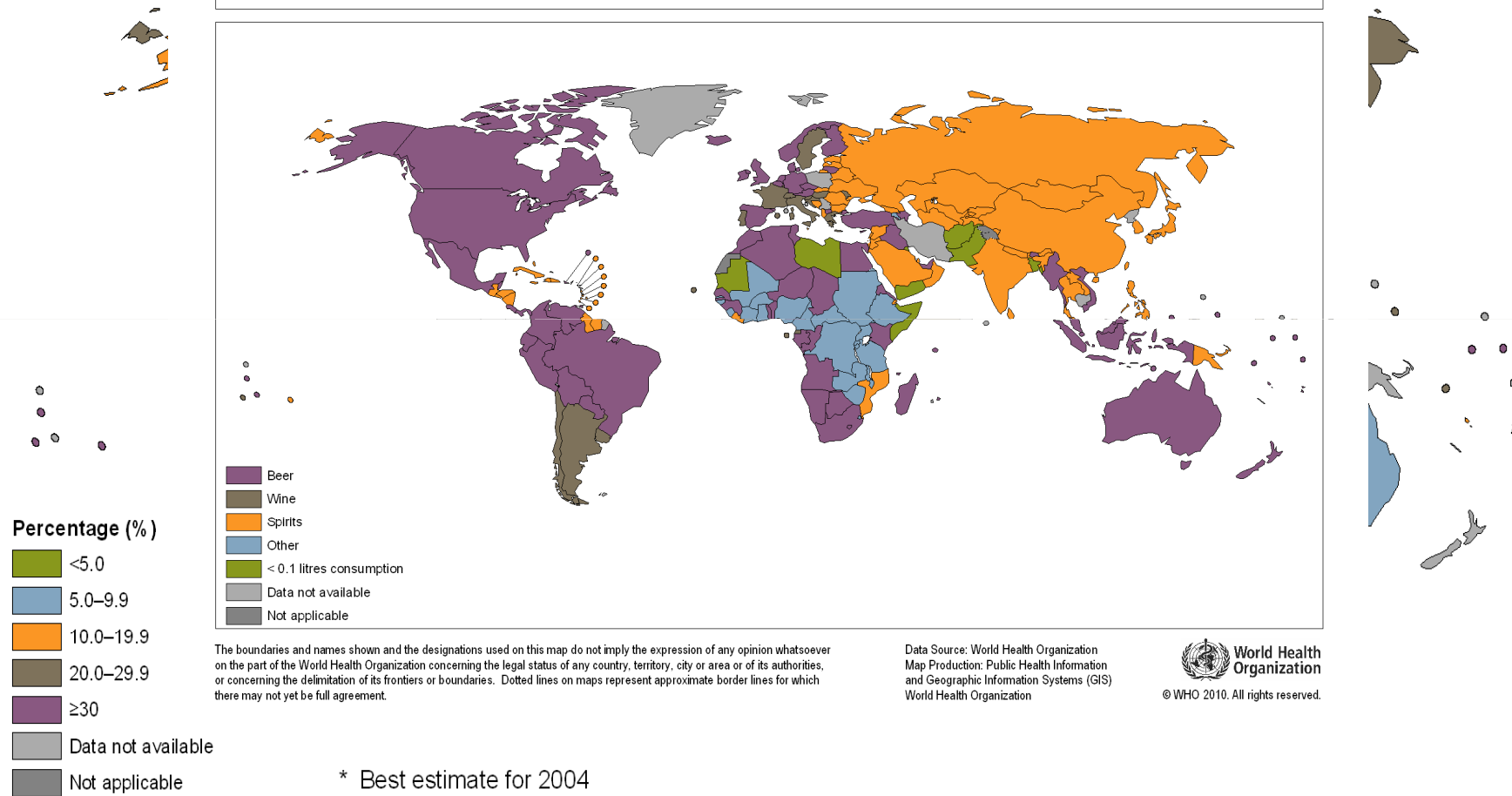
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# Heavy episodic drinker among drinkers, males, 2004\* (%)

## Most consumed alcoholic beverage in terms of litres of pure alcohol, 2005



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\* Best estimate for 2004

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# **Hazardous patterns of alcohol drinking**

- **It refers to the use of high quantities (e.g., 4-5 units) of alcohol per occasion, and generally includes:**
  - **drinking in public spaces especially over weekends,**
  - **heavy alcohol use during cultural festivals, and**
  - **drinking outside mealtimes including in the morning.**
- **In many African countries, these patterns of intermittent bouts of intoxication predominate, both in rural and urban areas and across social strata.**



# Binge Drinking- a particularly destructive form of hazardous drinking

- 1 Standard Drink=1 can ordinary beer (e.g 330 ml at 5 %) **or 1** single shot spirits (whiskey, gin, vodka) (40 ml at 40%) **or 1** glass wine (140 ml at 12%) **or** small glass sherry ( 90 ml at 18%) **or 1** small glass liqueur or aperitif (70 ml at 25%)
- “In Eastern & Southern Africa,70% females & 45% males abstain from alcohol but many individuals misuse/abuse alcohol, leading to serious public health consequences
- The prevalence of hazardous drinking (high quantity alcohol per session or drinking to intoxication) ***is second only to Eastern Europe.***” ***WHO 2004***  
([www.who.int/substance\\_abuse/publications/alcohol](http://www.who.int/substance_abuse/publications/alcohol))

# Alcohol use and HIV in Africa – is there a link?

- Three systemic reviews one of which also included a meta analysis were published recently as follows:
  - Fisher, J.C., Bang, H. & Kapiga, S.H. (2007). The association between HIV infection and alcohol use: a systematic review and meta-analysis of **African** studies. *Sexually Transmitted Diseases*, 34(11), 856-63 - reviewed 20 studies and meta-analysed results from 11 studies
  - Cook RL & Clark D (2005). Is there an association between alcohol consumption and sexually transmitted diseases? A systematic review. *Sexually Transmitted Diseases*, 32, 156–164. Also systematically reviewed 11 mostly **international** studies

# Alcohol use and HIV in Africa – is there a link? (contd)

- Kalichman, S.C., Simbayi, L.C., Kaufman, M., Cain, D. & Jooste, S. (2007). Alcohol Use and Sexual Risks for HIV/AIDS in **Sub-Saharan Africa**: Systematic Review of Empirical Findings. *Prevention Science*, 8(2), 141-151 – we systematically reviewed 33 studies.
- I will base the core of my presentation of our review as it was based on more studies.

# Summary of main findings from the systematic reviews

1. A consistent association between alcohol use and sexual risk taking is found:
  - Among people who drink, **greater quantities of alcohol consumption** were associated with greater sexual risks, frequency of drinking less so.
  - The reviews also showed a clear **gender difference in alcohol use and sexual risks**; men were more likely to drink and engage in higher risk behaviour whereas women's risks were often associated with their male sex partners' drinking.



## Summary of main findings from the systematic reviews (contd)

2. Of particular importance are the social dynamics of alcohol use which centre around the places where **people drink and socialize** including taverns, beer halls, and informal drinking establishments (also see Kalichman, Simbayi *et al.*, 2008).
3. There is a large body of evidence that **drinkers or heavy drinkers incur higher sexual risk behaviours like having multiple sexual partners** than non-drinkers

## Summary of main findings from the systematic reviews (contd)

4. Alcohol has been identified as a risk factor for **partner violence** leading to coerced sex and rape (also see Simbayi *et al.*, 2006).
5. Regional and local data demonstrate **the strong link between alcohol use and HIV infection at the individual level:**
  - In a meta-analysis of African studies, Fisher *et al.* (2007) concluded that **alcohol drinkers were more likely to be HIV positive than non-drinkers** (pooled OR from 20 studies =1.70, 95%CI 1.45-1.99).

## Summary of main findings from the systematic reviews (contd)

- When compared with non-drinkers, the pooled estimates of HIV risk were 1.57 (95% CI 1.33-1.86) for non-problem drinkers versus 2.04 (95% CI 1.61-2.58) for problem drinkers, a statistically significant difference ( $p < 0.04$ ).
- In the 2005 South African national survey, **PLWHA were more likely hazardous, harmful or binge drinkers** than HIV negative persons (see Peltzer & Ramlagan, 2009; Shisana *et al.* 2006).

# Conflicting evidence from ecological data

- At an **ecological level**, the link between heavy alcohol consumption and HIV is not evident in South Africa
- In the 2008 South African national survey (Louw, J., Shisana, O. et al., in preparation), it was found that:
  - Overall, there is no significant difference between HIV prevalence of abstainers (16.9%; 95% CI: 15.4 – 18.6) and high risk drinkers (14.4%; 95% CI: 11.0 – 18.6) while that of low risk drinkers (10.0%; 95% CI: 8.4 – 12.0) was significantly lower than that of abstainers;

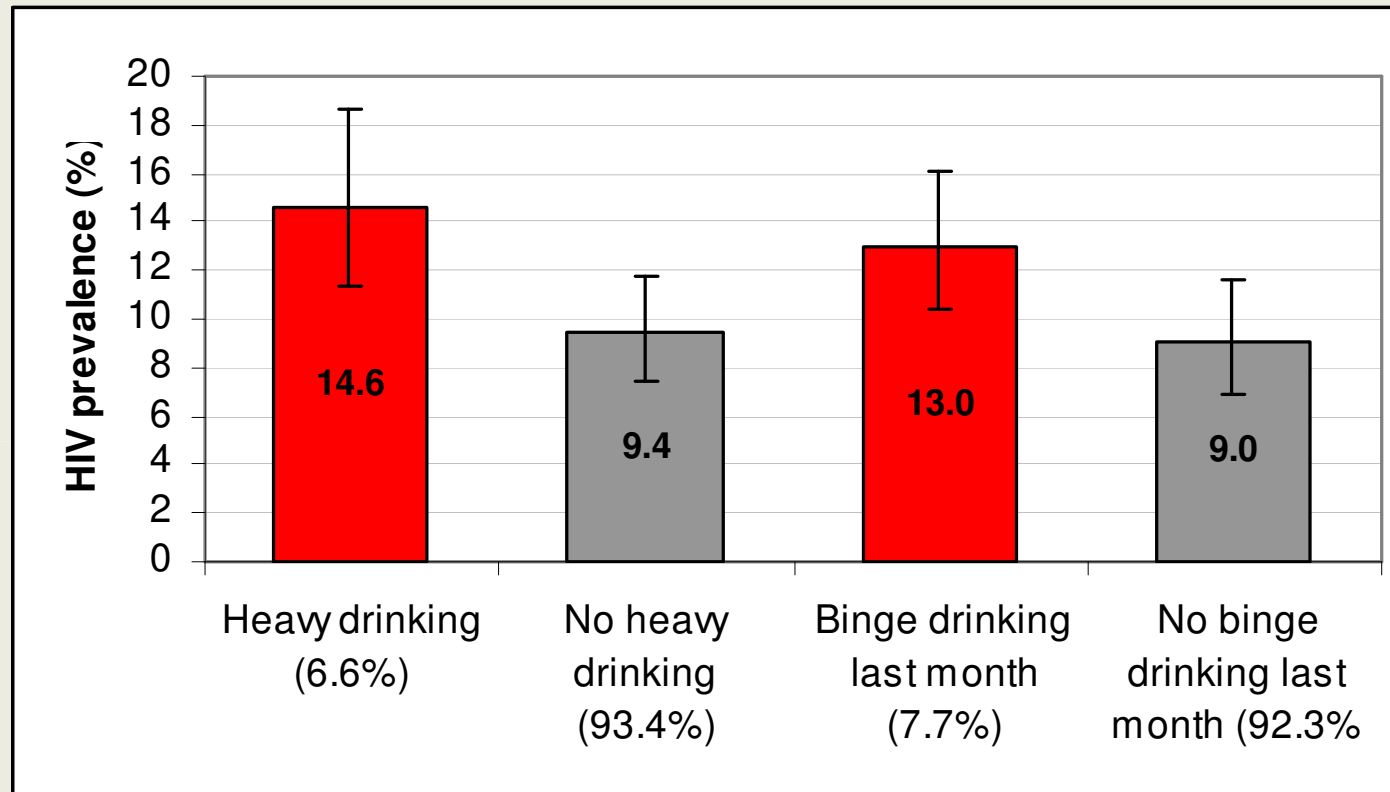




## **Conflicting evidence from ecological data (contd)**

- **Men have a higher frequency of heavy drinking (17%) than women (2.9%), but lower HIV prevalence;**
- **Coloured adults have a higher frequency of heavy drinking (20.5%) than African adults (7.9%), but lower HIV prevalence;**
- **Residents of the Western Cape and Northern Cape have highest frequencies of heavy drinking (15.1%, 14.6%), but lowest provincial HIV prevalence levels.**

## HIV prevalence in alcohol use groups in South Africa (2005)



**Source:** Peltzer & Ramlagan, 2009 (Table 9), based on data from 2005 South Africa national survey.

N.B. Heavy drinking= Score of 8 or higher in the 10-point Alcohol Use Disorder Identification Test (AUDIT)

# Conclusions

- **Available research data from several countries in Southern Africa demonstrates that alcohol consumption is associated with**
  - **risky sexual behaviour,**
  - **a higher likelihood of being HIV/STI infected, and**
  - **poor HIV prevention behaviours.**
- **However, there is some ecological data which suggests that the link is not a causal one.**
- **In particular, HIV infection among drinkers is mainly linked with hazardous drinking especially binge drinking.**

# Conclusions (contd)

- **There is clearly a need for interventions targeting both epidemics simultaneously to further enhance the fight against the spread of HIV especially in Southern Africa.**
- **It is therefore very shocking that the new Getting to Zero 2011-2015 Strategy for UNAIDS announced recently does not even mention about alcohol and its role in HIV infection at all let alone the need to address the issue to help reduce new HIV infections.**
- **This meeting is therefore most welcome as it ensures the issue of hazardous alcohol use remains in the radar of the HIV prevention debate.**

Thank you for your attention

