Alcohol, Infectious Diseases and Gender-based Violence

Context Setting and Overview of Policy and Programme Responses

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Integrating national policies on the harmful use of alcohol, gender-based violence and HIV, Oslo, 5th May 2015

World Health Organization
Outline of presentation

- Alcohol consumption in the world and alcohol-attributable disease burden
- Harmful use of alcohol and infectious diseases: HIV, TB and respiratory infections
- Harmful use of alcohol and violence (gender-based and interpersonal)
- Current international policy frameworks and processes
- Rationale and main objectives of the UNDP-WHO program on alcohol, HIV and gender-based violence.
Alcohol Consumption in the World

- ~1.9 billion people 15+ consumed alcoholic beverages in the last 12 months
- ~ 48% of the world adult (15+) population has never consumed alcohol
- ~ 62% - did not consume alcohol in the last 12 months.
Alcohol per capita consumption in the world (WHO estimates for 2010)

- On average 6.2 litres of pure alcohol per capita of adult (15+) population, including 1.5 litres (24.8%) of "unrecorded" alcohol

- Per capita consumption among 15+ in the WHO regions:
  - EUR – 10.9,
  - AMR – 8.4,
  - WPR – 6.8,
  - AFR – 6.0,
  - SEAR – 3.4,
  - EMR – 0.7.
Other highlights on alcohol consumption in the world in 2010 (WHO, 2014)

- Alcohol consumption per drinker: 17.2 litres of pure alcohol per drinker (approximately equivalent per person of 37.5 g/day)
  - 23.1 litres – South East Asian region (SEAR)
  - 19.5 litres – African region (AFR)
  - 16.8 litres – European region (EUR)
  - 15.0 – Western Pacific region (WPR)
  - 13.6 litres – region of Americas (AMR)
  - 11.3 – Eastern Mediterranean region (EMR)

- Prevalence of heavy episodic drinking (HED) – 7.5% among 15+, and 16% - among drinkers, and in WHO regions:
Five-year change in recorded adult per capita consumption, 2006–2010 (WHO, 2014)
Alcohol-attributable Disease Burden
Metrics: Disability Adjusted Life Year (DALY)

- Quantifying the Burden of Disease from mortality and morbidity

- One DALY can be thought of as one lost year of "healthy" life.

- DALYs for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences.

- \[ \text{DALY} = \text{YLL} + \text{YLD} \]
Several facts about global burden of disease attributable to alcohol in 2012 (WHO, 2014)

- 3.3 million deaths (5.9% of deaths in all age groups globally) are attributable to alcohol consumption
  - 7.6% for men
  - 4.0% for women

- 139 million DALYs lost or 5.1% of the global burden of disease expressed in DALYs is attributable to alcohol.

<table>
<thead>
<tr>
<th>1990</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean rank (95% UI)</strong></td>
<td><strong>Risk factor</strong></td>
</tr>
<tr>
<td>1:1 (1-2)</td>
<td>Childhood underweight</td>
</tr>
<tr>
<td>2:1 (1-4)</td>
<td>Household air pollution</td>
</tr>
<tr>
<td>2:9 (2-4)</td>
<td>Smoking (including SHS)</td>
</tr>
<tr>
<td>4:0 (3-5)</td>
<td>High blood pressure</td>
</tr>
<tr>
<td>5:5 (3-8)</td>
<td>Suboptimal breastfeeding</td>
</tr>
<tr>
<td>7:4 (6-8)</td>
<td>Ambient PM pollution</td>
</tr>
<tr>
<td>7:5 (6-8)</td>
<td>Low fruit</td>
</tr>
<tr>
<td>7:7 (6-8)</td>
<td>Alcohol use</td>
</tr>
<tr>
<td>9:7 (9-12)</td>
<td>High fasting plasma glucose</td>
</tr>
<tr>
<td>10:9 (9-14)</td>
<td>High body mass index</td>
</tr>
<tr>
<td>11:1 (9-15)</td>
<td>Iron deficiency</td>
</tr>
<tr>
<td>12:3 (9-17)</td>
<td>High sodium</td>
</tr>
<tr>
<td>13:9 (10-15)</td>
<td>Low nitrates and seeds</td>
</tr>
<tr>
<td>14:1 (11-17)</td>
<td>High total cholesterol</td>
</tr>
<tr>
<td>16:2 (9-28)</td>
<td>Sanitation</td>
</tr>
<tr>
<td>16:7 (13-21)</td>
<td>Low vegetables</td>
</tr>
<tr>
<td>17:1 (16-23)</td>
<td>Vitamin A deficiency</td>
</tr>
<tr>
<td>17:3 (15-20)</td>
<td>Low whole grains</td>
</tr>
<tr>
<td>20:1 (13-25)</td>
<td>Zinc deficiency</td>
</tr>
<tr>
<td>20:5 (17-25)</td>
<td>Low omega 3</td>
</tr>
<tr>
<td>20:8 (18-24)</td>
<td>Occupational injury</td>
</tr>
<tr>
<td>21:7 (14-34)</td>
<td>Unimproved water</td>
</tr>
<tr>
<td>22:6 (19-26)</td>
<td>Occupational low back pain</td>
</tr>
<tr>
<td>23:2 (19-30)</td>
<td>High processed meat</td>
</tr>
<tr>
<td>24:2 (21-26)</td>
<td>Drug use</td>
</tr>
</tbody>
</table>

--- Ascending order in rank
----- Descending order in rank
Alcohol-attributable fractions for selected causes of death, disease and injury, 2012 (WHO, 2014)

All global deaths/DALYs

- Interpersonal violence: 22/20
- Self-harm: 22/20
- Tuberculosis: 12/11
- HIV/AIDS: 1/1
- Breast cancer: 8/8
- Ischaemic heart disease: 7/5
- Liver cirrhosis: 50/50
- Alcohol use disorders: 100/100
Global distribution of alcohol-attributable deaths by disease or injury (WHO, 2014)
Global distribution of alcohol-attributable DALYs by disease or injury (WHO, 2014)

Net total = 139 million DALYs

- Cancers
- Cardiovascular diseases and diabetes
- Neuropsychiatric disorders
- Gastrointestinal diseases
- Infectious diseases
- Unintentional injuries
- Intentional injuries
- Neonatal conditions

* Including beneficial effects of low-risk drinking patterns on some diseases.
Note: Percentages may not add up to 100% due to rounding.
Proportion of alcohol-attributable deaths (%) of total deaths by age group, 2012 (WHO, 2014)
Alcohol-attributable deaths or DALYs by income group and the world, 2012 (WHO, 2014)
Alcohol and Infectious Diseases: HIV and Tuberculosis
Alcohol and HIV Incidence: Results of Meta-Analyses of Prospective Studies

Significant association with:

- Any alcohol consumption (1.78)
- Binge drinking (RR-2.20)
- Alcohol consumption prior to sex (RR – 1.86)

_Baliunas, Rehm, Irving, & Shuper (2010)_
Alcohol and Unprotected Sex Intentions: Controlled Laboratory Experiments (courtesy of P. Shuper)
## Alcohol and ART Adherence: Results of Meta Analysis *(Hendershot et al., 2009)*

<table>
<thead>
<tr>
<th>Alcohol Categorization</th>
<th>Result – OR (95% CI)</th>
</tr>
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<tbody>
<tr>
<td>Alcohol Users/↑Consumption vs. Non-Users/↓Consumption</td>
<td>0.55 (0.49-0.61)</td>
</tr>
<tr>
<td>Problem Drinkers vs. Non-Problem Drinkers/Abstainers</td>
<td>0.47 (0.41-0.55)</td>
</tr>
<tr>
<td>Moderate Drinkers vs. Abstainers/↓Consumption</td>
<td>0.48 (0.36-0.64)</td>
</tr>
<tr>
<td>Any use vs. No-use (past year)</td>
<td>0.60 (0.53-0.69)</td>
</tr>
</tbody>
</table>
Alcohol consumption and adherence to ART
(Braithwaite et al., 2005)

Method: Telephone survey with >2000 participants in the US with measures of alcohol consumed and missed ART doses

Results among drinkers:
- 3.8% missed doses on non-drinking days
- 6.2% missed doses on drinking days (without binge drinking)
- 14.3% missed doses on binge drinking days.
## The Environment and Disease: Association or Causation? (Austin Bradford Hill, 1965)

<table>
<thead>
<tr>
<th>1. Strength of association</th>
<th>5. Biological gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Consistency of observed association</td>
<td>6. Plausibility</td>
</tr>
<tr>
<td>3. Specificity of the association</td>
<td>7. Coherence</td>
</tr>
<tr>
<td>4. Temporality</td>
<td>8. Experiment</td>
</tr>
<tr>
<td></td>
<td>9. Analogy</td>
</tr>
</tbody>
</table>
Harmful use of alcohol and adherence to Antiretroviral Therapy (ART)

Potential mechanisms of impaired adherence to ART due to harmful use of alcohol:

- Decreased access to ART due to social drift
- Poorer retention in care (e.g., Tucker et al., 2004)
- Uncontrolled drinking and withdrawal in alcohol dependence
- Personal misperceptions – “cannot take ART if drinking” (Kalichman et al., 2009; 2012).
Relationship between Alcohol Use and ART Adherence in People with Alcohol Problems
(Parsons et al, 2008)

Method: 272 (US) HIV+ "alcohol problems"

- Alcohol consumed, ART doses taken
- Regimen complexity

Results:

- On days during which alcohol was consumed $\rightarrow \sim 9X$ increased likelihood of non-adherence (OR=8.8, CI=7.16-10.77)

- Each drink increased the odds of non-adherence by 20% (OR=1.20, CI=1.18-1.22).
<table>
<thead>
<tr>
<th>Factor</th>
<th>Relative risk for active TB disease</th>
<th>Weighted prevalence (adults 22 HBCs)</th>
<th>Population Attributable Fraction (adults)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV infection</td>
<td>20.6/26.7*</td>
<td>0.8%</td>
<td>16%</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>3.2**</td>
<td>16.7%</td>
<td>27%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>3.1</td>
<td>5.4%</td>
<td>10%</td>
</tr>
<tr>
<td>Alcohol use (&gt;40g / d)</td>
<td>2.9</td>
<td>8.1%</td>
<td>13%</td>
</tr>
<tr>
<td>Active smoking</td>
<td>2.0</td>
<td>26%</td>
<td>21%</td>
</tr>
<tr>
<td>Indoor Air Pollution</td>
<td>1.4</td>
<td>71.2%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Impact of harmful use of alcohol on TB care and prevention

- Increases the risk of TB three-fold
- 13% of global TB incidence attributable to harmful alcohol use
- Contributes to delayed TB diagnosis
- Increases the risk of TB treatment interruption three-fold
- Increases the risk of treatment failure, TB relapse, and death
Reducing the harmful use of alcohol in populations is expected to contribute to TB prevention.

Screening people with alcohol use disorder for TB is expected to result in better and early identification of TB cases.

Screening people suffering from TB for alcohol use and alcohol use disorders and providing alcohol-focused interventions is expected to result in improved health outcomes for TB.
Estimated TB Mortality Rates, 2013 excluding deaths among HIV-positive people (WHO, 2014)
1. Integrated, patient-centered TB Care and Prevention

- Early diagnosis of TB including universal drug-susceptibility testing and systematic screening of contacts and high-risk groups
- Treatment of all forms of TB including drug-resistant TB with patient support
- Collaborative TB/HIV activities, management of co-morbidities
- Preventive treatment for high-risk groups and vaccination of children

2. Bold policies and supportive systems

- Government stewardship, commitment, and adequate resources for TB care and control with monitoring and evaluation
- Engagement of communities, civil society organizations, and all public and private care providers
- Universal health coverage policy; and regulatory framework for case notification, vital registration, drug quality and rational use, and infection control
- Social protection, poverty alleviation, and actions on other determinants of TB

3. Intensified Research and Innovation

- Discovery, development and rapid uptake of new tools, interventions and strategies
- Operational research to optimize implementation and impact, and promote innovations
“Everyone with TB should have access to the innovative tools and services they need for rapid diagnosis, treatment and care. This is a matter of social justice, fundamental to our goal of universal health coverage. Given the prevalence of drug-resistant tuberculosis, ensuring high-quality and complete care will also benefit global health security. I call for intensified global solidarity and action to ensure the success of this transformative End TB Strategy.”
Alcohol and lower respiratory infections

Relative risk for pneumonia – 1.3 at alcohol consumption of 60 g/day

3-8 fold increase in risk of pneumonia in alcohol dependence.
Alcohol and infectious diseases: conclusions

The currently available evidence points towards a causal link between harmful use of alcohol and HIV infection, TB and their progression. It is demonstrated that harmful use of alcohol may increase the HIV and TB-related burden by three major mechanisms:

- Increasing acquisition of infections, mostly through behaviours influenced by alcohol
- Compromising immunity leading to altered disease progression
- Compromising treatment effectiveness and its prevention potential by interfering with treatment, primarily through treatment uptake and adherence, which impacts effectiveness and negates prevention effect of treatment.
Alcohol and Violence: Gender-based and Interpersonal
Global scope of the problem

- In 2011 estimated 1.37 million people died as a result of violence
  - 58% - self-directed violence
  - 35% - interpersonal violence
  - 6% - collective violence
- 475 000 people were murdered in 2012
- 35% of women worldwide experienced intimate partner violence and non-partner sexual violence, and 4%-22% of women are affected by sexual and other forms of violence in conflict.
Behavioural and health consequences of violence (WHO, 2014)

Physical
- Abdominal injuries
- Thoracic injuries
- Brain injuries
- Burns/scalds
- Fractures
- Lacerations
- Disability

Mental health and behavioural
- Alcohol and drug abuse
- Depression and anxiety
- Post-traumatic stress disorder
- Eating and sleep disorders
- Attention deficits
- Hyperactivity
- Externalizing behaviour
- Smoking
- Suicidal thoughts
- Suicidal behaviour
- Unsafe behaviour
- Unsafe sex

Sexual and reproductive health
- Unintended pregnancy
- Pregnancy complications
- Unsafe abortions
- Gynaecological disorders
- Complex pain syndromes
- Chronic pelvic pain
- HIV
- Other sexually transmitted infections

Chronic disease
- Arthritis and asthma
- Cancer
- Cardiovascular disorders
- Diabetes
- Kidney problems
- Liver disease
- Stroke
Risk factors for interpersonal violence, violence against women and girls, and intimate partner violence (WHO, 2014)

- Being a victim of child maltreatment and harsh parental discipline; exposure to parental violence
  - 20-25% of adults were physically abused as children
- Poor monitoring and supervision of children
- Witnessing violence
- Unequal gender norms, and controlling behaviour by a male partner
- Low educational attainment and lack of access to employment
- Alcohol and drug abuse.
Potential mechanisms of impact of alcohol use on violence

- Alcohol intoxication with impaired psychosocial functioning
  - Impaired processing of information
  - Emotional instability and impulsivity

- Individual and societal "norms" and beliefs

- Common risk factors for heavy drinking and violence
  - Personality disorder, organic brain disorders

- Alcohol dependence with increased risk of violent behaviour in intoxication and withdrawal
Prevention of alcohol-related violence

- Addressing risk factors of interpersonal violence
- Alcohol policy interventions
  - Pricing policies
  - Reducing availability of alcohol (legal age)
  - Modifying drinking settings
    - Improving management and staff practice through training programs
    - Enforcement of licensing and serving legislations and rules
      - Not serving intoxicated people
    - Improvement in lighting, video surveillance, transportation
Current International Policy Frameworks and Processes
Global strategy to reduce the harmful use of alcohol (WHO, 2010)

- Developed through a long and intense collaboration between the WHO Secretariat and Member States.

- Incorporates, when relevant and appropriate, the outcomes of consultations with stakeholders, including the industry and NGOs.

- Represents a unique consensus among WHO 194 Member States on ways to tackle harmful use of alcohol at all levels.
What actions needed to reduce the harmful use of alcohol? (WHO, 2010)

Global, regional and national actions on:

– levels of alcohol consumption
– patterns of alcohol consumption
– contexts of alcohol consumption
– wider social determinants of health

➢ Special attention needs to be given to reducing harm to people other than the drinker and to populations that are at particular risk from harmful use of alcohol.
Recommended 10 target areas for policy measures and interventions

1. Leadership, awareness and commitment
2. Health services' response
3. Community action
4. Drink-driving policies and countermeasures
5. Availability of alcohol
6. Marketing of alcoholic beverages
7. Pricing policies
8. Reducing the negative consequences of drinking and alcohol intoxication
9. Reducing the public health impact of illicit alcohol and informally produced alcohol
10. Monitoring and surveillance
"Best buys" for tackling harmful use of alcohol (WHO, 2011)

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Interventions / actions</th>
<th>Avoidable burden (DALYs averted, millions)</th>
<th>Cost-effectiveness b (US$ per DALY prevented)</th>
<th>Implementation cost (US$ per capita)</th>
<th>Feasibility (health system constraints)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol use (&gt; 50m DALYs; 4.5% global burden)</td>
<td>Restrict access to retailed alcohol *</td>
<td>Combined effect: 5-10 m DALYs averted</td>
<td>Very cost-effective</td>
<td>Very low cost</td>
<td>Highly feasible</td>
</tr>
<tr>
<td></td>
<td>Enforce restrictions and bans on alcohol advertising*</td>
<td>(10-20% alcohol burden)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Raise taxes on alcohol *</td>
<td></td>
<td>Quite cost-effective</td>
<td>Quite low cost</td>
<td>Intersectoral action</td>
</tr>
<tr>
<td></td>
<td>Enforce drink driving laws (breath-testing)</td>
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<td></td>
<td>Feasible in primary care</td>
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<tr>
<td></td>
<td>Offer counselling to drinkers</td>
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Risk factor
(DALYs, in millions; % global burden) a

Interventions / actions ( * core set of 'best buys', others are 'good buys')

Avoidable burden (DALYs averted, millions)

Cost-effectiveness b (US$ per DALY prevented)
[Very = < GDP per person; Quite = < 3* GDP per person; Less = >3* GDP per person]

Implementation cost (US$ per capita)
[Very low = < US$0.50; Quite low = < US$ 1; Higher = > US$ 1]

Feasibility (health system constraints)
The UN Political Declaration on the Prevention and Control of Non-communicable Diseases: focus on 4 groups of conditions and 4 modifiable risk factors of NCDs (2011)

<table>
<thead>
<tr>
<th></th>
<th>Tobacco use</th>
<th>Unhealthy diets</th>
<th>Physical inactivity</th>
<th>Harmful use of alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular diseases</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Diabetes</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Cancer</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Chronic lung disease</td>
<td>✔</td>
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</table>
Harmful use of alcohol: one of 9 targets in the Global Monitoring Framework for prevention and control of NCDs
Integrated approach to strategies on HIV, STIs and viral hepatitis infection (2015-2016)

Draft for Consultation

World Health Organization

Global Health Sector Strategy on HIV, 2016–2021
Strengthening the role of the health system in addressing violence, in particular against women and girls, and against children

Draft resolution proposed by the delegations of Albania, Australia, Belgium, Canada, Guatemala, India, Italy, Latvia, Mexico, Moldova, Namibia, Netherlands, Norway, Paraguay, Portugal, Switzerland, Thailand, Turkey, Ukraine, Uruguay, USA and Zambia

The Sixty-seventh World Health Assembly,

PP1 Having considered the report on addressing the global challenge of violence, in particular against women and girls;
Rationale and main objectives of the UNDP-WHO program on alcohol, HIV and gender-based violence
Summary of the nexus between alcohol, gender-based violence and HIV (1)

- **Harmful use of alcohol can…**
  - lower inhibitions and increase risk taking behaviour including having unprotected sex and becoming more vulnerable to sexual coercion and sexual violence
  - can increase risk of sexual violence against women, girls and men
  - cause poor adherence to HIV treatment

- **Living with HIV can…**
  - lead to increased alcohol consumption as a coping mechanism for depression or stigma and discrimination
  - reduce women’s ability to negotiate safer sex
  - Lead to extreme stigma and discrimination.
Gender-based violence can…

- cause HIV and STI transmission through sexual violence, coercion or abuse
- lead to increased alcohol consumption as a coping mechanism for depression or stigma and discrimination
- reduce women’s ability to negotiate safer sex
Purpose and scope of the UNDP-WHO program

- Overall (long term) global programme goal:
  - Develop evidence-informed policy and practice at global, regional and national levels to address the harmful use of alcohol in concert with improving HIV prevention and treatment outcomes and reducing of and responding to gender-based violence outcomes.
Overall (long term) global programme expected outcomes

- Global awareness and increased commitment of UN agencies, national governments and other relevant stakeholders to integrate GBV and HIV into alcohol policy and programmes.

- Documented models of integrated/linked service delivery.

- Contribution to strategic documents and reports of WHO, UNDP, UNAIDS and other UN agencies on impact of harmful use of alcohol on HIV/AIDS and violence and preventive strategies and interventions.

- New country level data on relationship between the harmful use of alcohol, HIV (and TB) and violence.

- Joint collaborative plan among relevant UN agencies and other interested organizations to address the impact of harmful use of alcohol on HIV and violence.
Pilot phase of the Program

Launch pilot
- Convene international consultative meeting with stakeholders from participating countries/regions

Pilot phase (18 months)
- National situation assessment (existing and new data)
- National capacity assessment and testing strengthening options
- Documentation of evidence, good practice, recommendations
- Draft global initiative framework

Launch global initiative
- Convene international/global platform to present pilot findings and recommendations
- Present draft global framework
- Seek commitments for participation and resources
Partners in the Program

- WHO and UNDP, STRIVE, FORUT, Developmental partners...

National partners

- WHO and UNDP Country Offices

- Government (Ministry of Health, Social Welfare, Justice, Gender, Trade and Commerce, Home affairs, Local government etc.)

- NGOs, Academic institutions

- Communities (chiefs/leaders in the community, women's groups etc.)
Implemented Activities in Pilot Phase

- The project development
- Building up partnerships and implementation mechanisms
- Workshop in Windhoek, Namibia, 10-12 June 2014.
Address the linkages between the harmful use of alcohol, violence and infectious diseases (HIV/AIDS and tuberculosis)

13. A regional meeting involving nine countries in sub-Saharan Africa on how to strengthen action on the harmful use of alcohol, interpersonal violence and HIV/AIDS was held in Namibia from 10 to 12 June 2014. The meeting was organized jointly by WHO and UNDP as part of wider efforts to build synergies between responses to the use of alcohol, gender-based violence, HIV/AIDS and tuberculosis. The countries that participated in the meeting are now developing national action plans, and at least four have been endorsed by their respective Governments.
Acknowledgements

- WHO: Dag Rekve, Alexandra Fleischmann, Alex Butchart, Claudia Garcia Moreno
- WHO Collaborating Centres: Jurgen Rehm, Paul Shuper, Mark Bellis, Kevin Shield, Mararet Rylett.
- UNDP: Dudley Tarlton, Tilly Sellers, Douglas Webb, Susana Fried, Jo Kaybryn
- FORUT: Dag Endal, Øystein Bakke
- The Government of Norway
Thank you for your attention

Further information at:

http://www.who.int/substance_abuse/