Defining and diagnosing addiction

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Tuesday 24th October 2017

Defining and diagnosing addiction: an example from ICD-11 development

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TWIST Session
European Addiction Conference
Lisbon, Portugal, 24 October 2017

Disclaimer

- The presenter is a staff member of the World Health Organization. The presenter alone is responsible for the views expressed in this presentation and they do not necessarily represent the decisions or policies of the World Health Organization.

- The presenter is involved in WHO Secretariat in coordination of the work on ICD-11 development for disorders due to substance use and addictive behaviours.

Acknowledgements

- Geoffrey Reed, Shekhar Saxena, Robert Jakob, Nenad Kostanjsek and other colleagues at the WHO Department of Mental Health and Substance Abuse and WHO Department of Heath Statistics and Informatics.

- Susumu Higuchi (Japan), John Saunders (Australia), Linda Cottler (USA), Robin Room (Australia), Maria Elena Medina-Mora (Mexico).

- Members of the ICD-11 Working Group on disorders due to substance use and addictive disorders/behavioral addictions.

- National Rehabilitation Centre, Abu Dhabi, UAE.

ICD-11 Working Group on the Classification of Substance-Related and Addictive Disorders

- Sawitri Assanangkornchai, Thailand
- Thomas Babor, USA
- Miguel Casas, Spain
- Karl Mann, Germany
- Neo Morojele, South Africa
- Marina Piazza, Perú
- Afarin Rahimi-Movaghar, Iran
- Rajat Ray (Chair), India
- John Saunders, Australia
- Wei Hao, China

Special invitees:

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- Michael First, USA

WHO staff:

- Vladimir Poznyak
- Geoffrey Reed
- Nicolas Clark
- Shekhar Saxena
- Nenad Kostanjsek
- Robert Jakob

Content

- Nomenclature and its importance for interpretation of definitions and diagnoses of "addiction

- Main objectives of international classifications

- History and recent developments in International Classification of Disorders (ICD)

- ICD-11: major innovations and field testing

Nomenclature and its importance

- Nomenclature – a system of names and terms, or the rules for forming these terms in a particular field of sciences

- Increasingly prominent in international debates in recent years with a particular focus on the "core" concepts in the field – "addiction", "dependence", "substance use disorder" and public health impact of the terms

- Common approach is not possible even within the United nations system due to some historical documents which are still valid (UN drug conventions of 1961, 1971, 1988 etc)

- WHO has its nomenclature linked to the work on International Classification of Diseases.

WHO Lexicon of terms linked to ICD-10

Definition of "addiction" (R. West, 2013)

A repeated powerful motivation to engage in a purposeful behaviour that has no survival value, acquired as a result of engaging in that behaviour, with significant potential for unintended harm.

EMCDDA

INSIGHTS

Models of addiction

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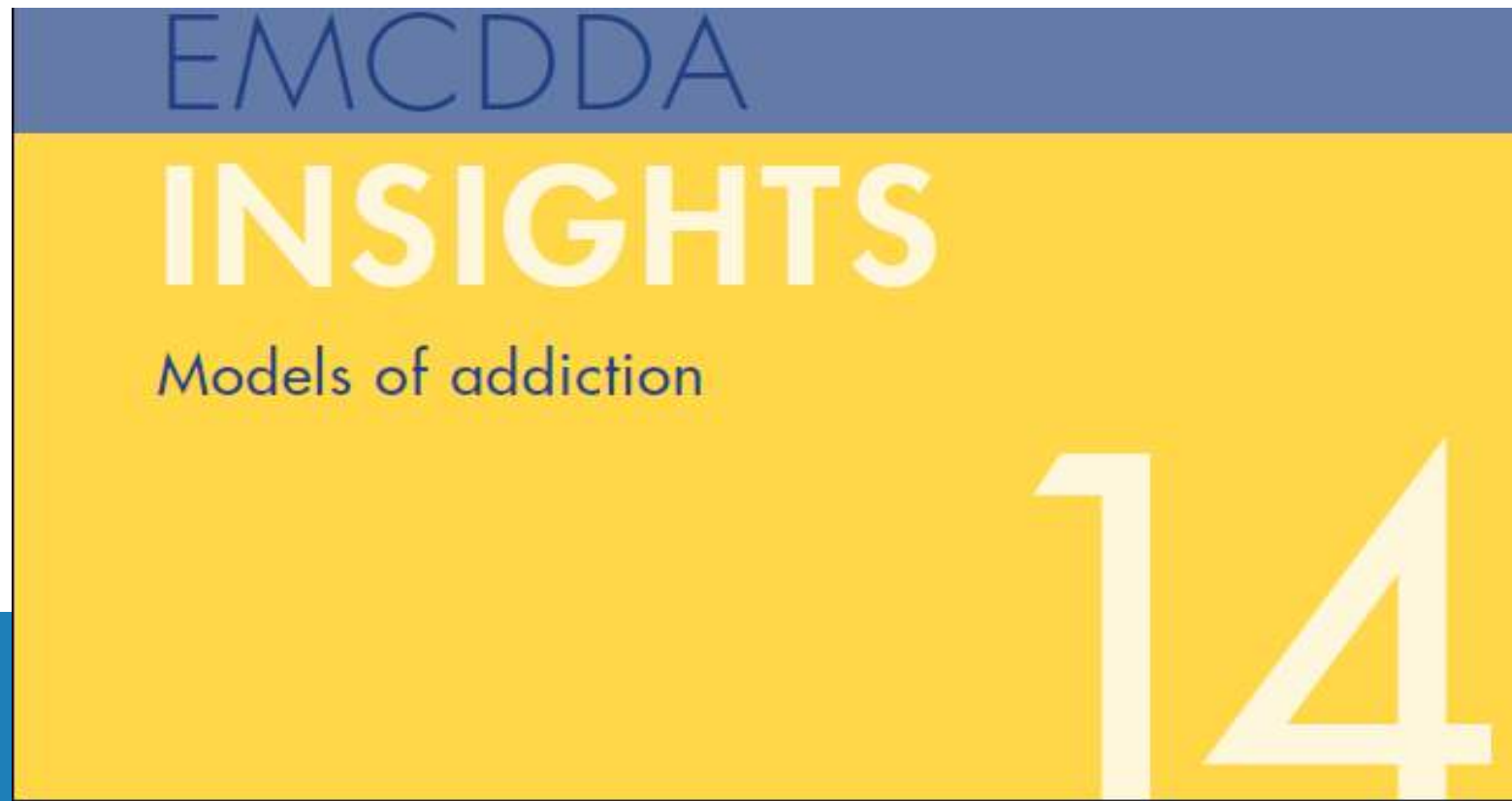
Evolution of the "core" term in WHO nomenclature

ICD

- ICD-7 (1955): alcoholism, drug addiction

- ICD-8 (1965): alcoholic addiction, drug dependence

- ICD-9 (1975): alcohol dependence syndrome, drug dependence, tobacco use disorder

- ICD-10 (1990-1991): dependence syndrome.

WHO Expert Committee on Addiction-Producing Drugs, 13th report, 1963/1964

The WHO Expert Committee on Addiction-Producing Drugs in 1952 [1] attempted to formulate a definition of addiction applicable to drugs under international control, which it later (1957) [2] revised. The Expert Committee sought also to differentiate addiction from habituation and wrote a definition of the latter which, however, failed in practice to make a clear distinction. The definition of addiction gained some acceptance, but confusion in the use of the terms addiction and habituation and misuse of the former continued. Further, the list of drugs abused increased in number and diversity. These difficulties have become increasingly apparent and various attempts have been made to find a term that could be applied to drug abuse generally. The component in common appears to be dependence, whether psychic or physical or both. Hence, use of the term " drug dependence ", with a modifying phrase linking it to a particular drug type in order to differentiate one class of drugs from another, has been given most careful consideration.

" Drug dependence " is defined as a state arising from repeated administration of a drug on a periodic or continuous basis. Its characteristics will vary with the agent involved and this must be made clear by designating the particular type of drug dependence in each specific case—for example, drug dependence of morphine type, of cocaine type, of cannabis type, of barbiturate type, of amphetamine type, etc. (See Annex 1 for descriptions of specific types of drug dependence.)

The Expert Committee recommends substitution of the term " drug dependence " for the terms " drug addiction " and " drug habituation ".

Evolution of the "core terms" in DSM

- DSM-III – DSM IIIR – DSM- IV (1980 – 2013) – "Dependence" and "Abuse"

- DSM-5 (2013): "Substance use disorder" to cover abuse and dependence, and for diagnosing SUD two of eleven criteria have to be met (in DSM-IV three of seven for "dependence" and 1 from 4 for "abuse"

- Moderate and severe SUD in DSM-5 corresponds to "dependence", though no specific diagnostic features are required.

Language, Substance Use Disorders, and Policy: The Need to Reach Consensus on an "Addiction-ary"
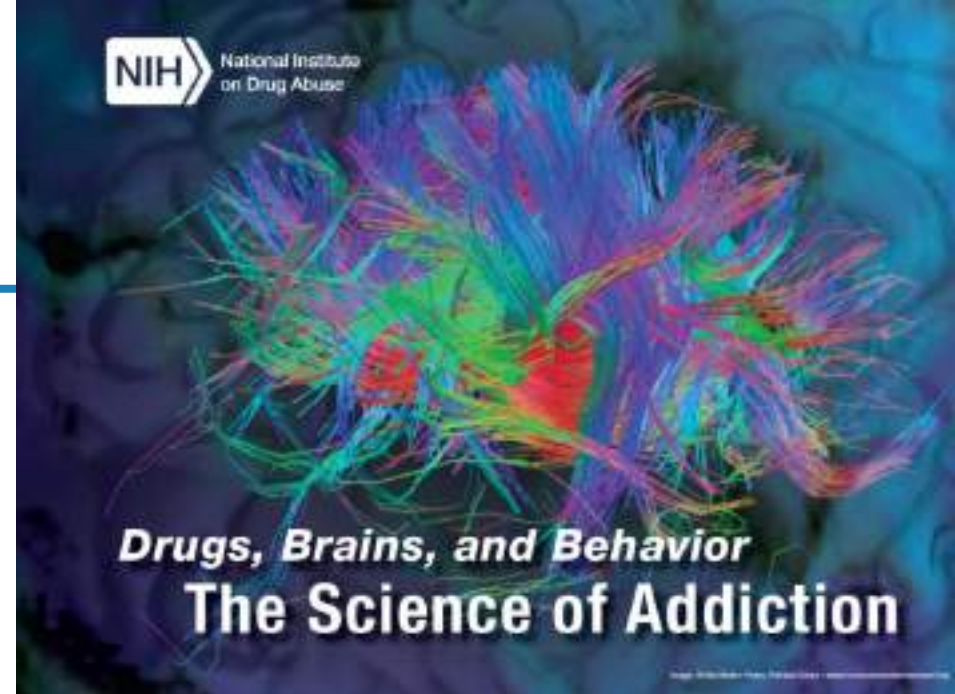
John F. Kelly PhD, Richard Saitz MD & Sarah Wakeman MD

NIH National Institute on Drug Abuse

Drugs, Brains, and Behavior
The Science of Addiction

UNODC
United Nations Office on Drugs and Crime

Terminology and Information on Drugs
Third edition

Review Paper

Access to treatment with controlled medicines rationale and recommendations for neutral, precise, and respectful language

CrossMark

W. Scholten [a,*], O. Simon [b], I. Maremmani [c], C. Wells [d], J.F. Kelly [e], R. Hämmig [f], L. Radbruch [g,h]
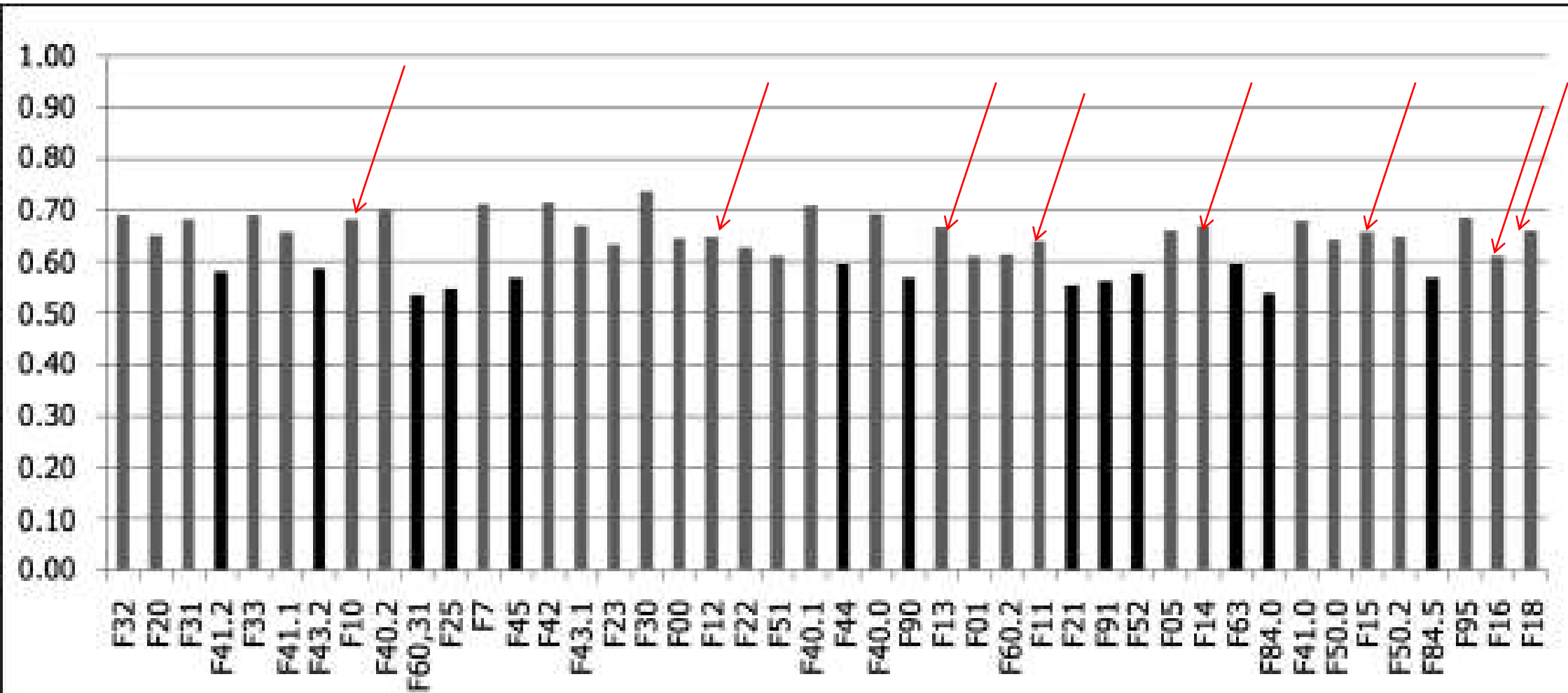
Definition of dependence in ICD-10

A cluster of physiological, behavioural, and cognitive phenomena in which the use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviours that once had greater value. A central descriptive characteristic of the dependence syndrome is the desire (often strong, sometimes overpowering) to take psychoactive drugs (which may or may not have been medically prescribed), alcohol, or tobacco. There may be evidence that return to substance use after a period of abstinence leads to a more rapid reappearance of other features of the syndrome than occurs with nondependent individuals.

Diagnostic guidance for dependence in ICD-10

- A definite diagnosis of dependence should usually be made only if three or more of the following have been present together at some time during the previous year:

  - (1) a strong desire or sense of compulsion to take the substance;
  - (2) difficulties in controlling substance-taking behaviour in terms of its onset, termination, or levels of use;
  - (3) a physiological withdrawal state
  - (4) evidence of tolerance
  - (5) progressive neglect of alternative pleasures or interests…
  - (6) persisting with substance use despite clear evidence of overtly harmful consequences.

Mean transformed "goodness of fit" ratings for ICD-10 categories (G Reed et al, 2011)

Definition of substance dependence in ICD-11 (draft for field testing)

A disorder of regulation of alcohol use arising from repeated or continuous use of that substance. Its central feature is a strong internal drive to use alcohol, manifested by impaired ability to control use, increasing priority given to alcohol use over other activities, and persistence of use despite harm and adverse consequences. Individuals with alcohol dependence often develop tolerance and withdrawal symptoms. The constellation of behaviours suggesting dependence is evident over a period of at least 12 months if use is episodic, or over a period of at least one month if use is continuous (daily or almost daily).

DSM and ICD

- DSM developed in the US (DSM-1 appeared in 1952 and was based on the US army manual)

- Covers mental and behavioural disorders and focus on morbidity and use by mental health specialists

- Developed and "owned" by American Psychiatric Association

- US-based, but widely used around the world, particularly for research purposes

- ICD evolved from the first mortality classification (1853)

- Covers all health conditions with a significant focus on mortality and use by all health professionals and governments

- Developed by WHO since 1948 and "owned" by WHO Member States

- Countries report on health statistics using ICD codes

- Specialty adaptations (ICD-10 Blue and Green Books and PHC version)

Main objectives of the international classification

- Systematic recording, analysis and comparisons of mortality and morbidity data (initial focus on mortality)

- Facilitate provision of effective treatment and care
  - Clinical utility: predictive utility, usefulness for selecting interventions, easy to use, accuracy ("goodness of fit"), feasibility
  - Public health utility (health care systems, statistics, monitoring and evaluation)

- Facilitate international cooperation, communication and dialogue (e.g. by using WHO nomenclature)

- Facilitate education, training and research.

The History of International Classification of Diseases and Health Conditions
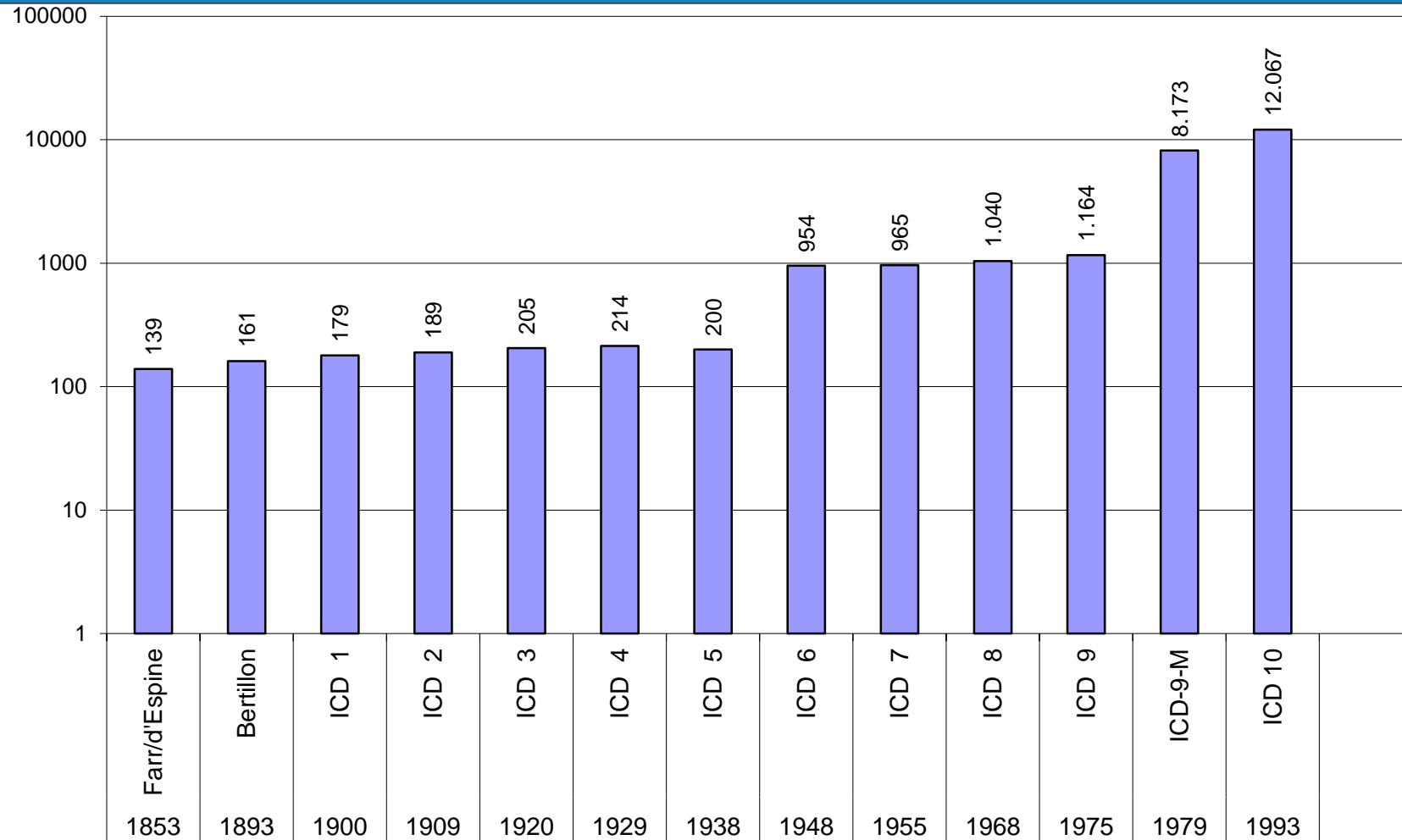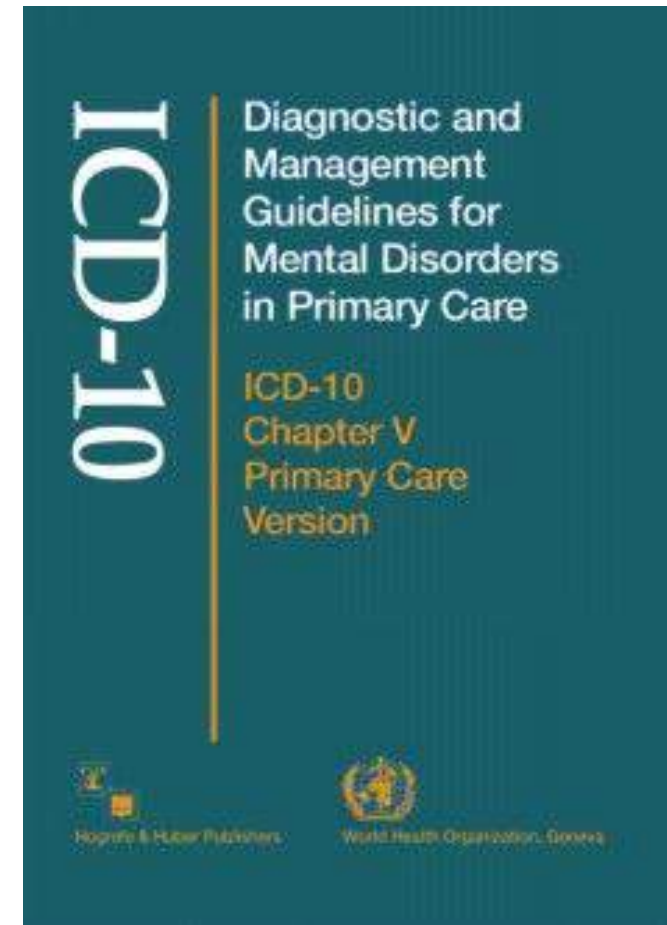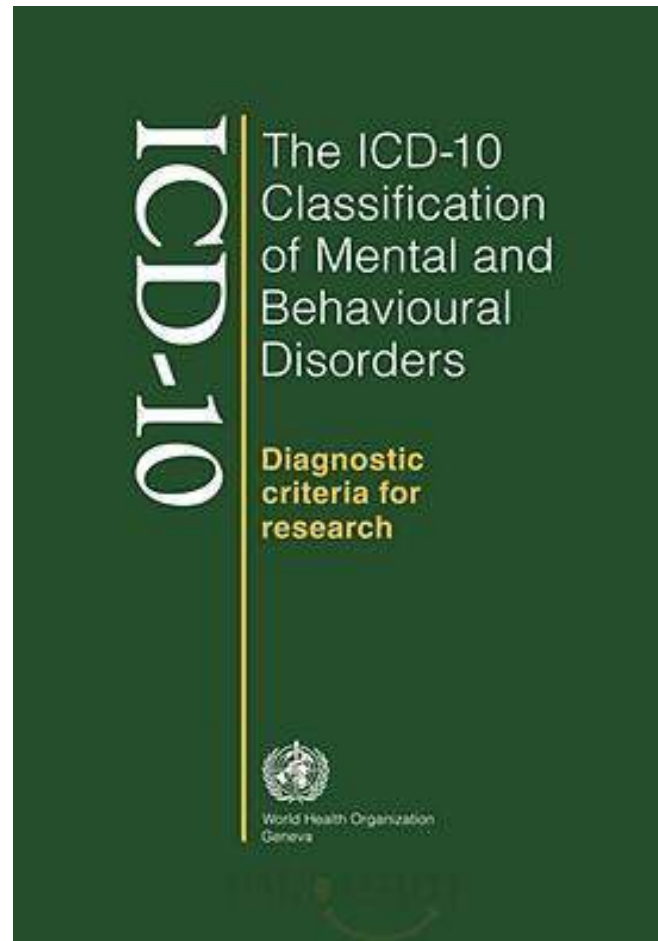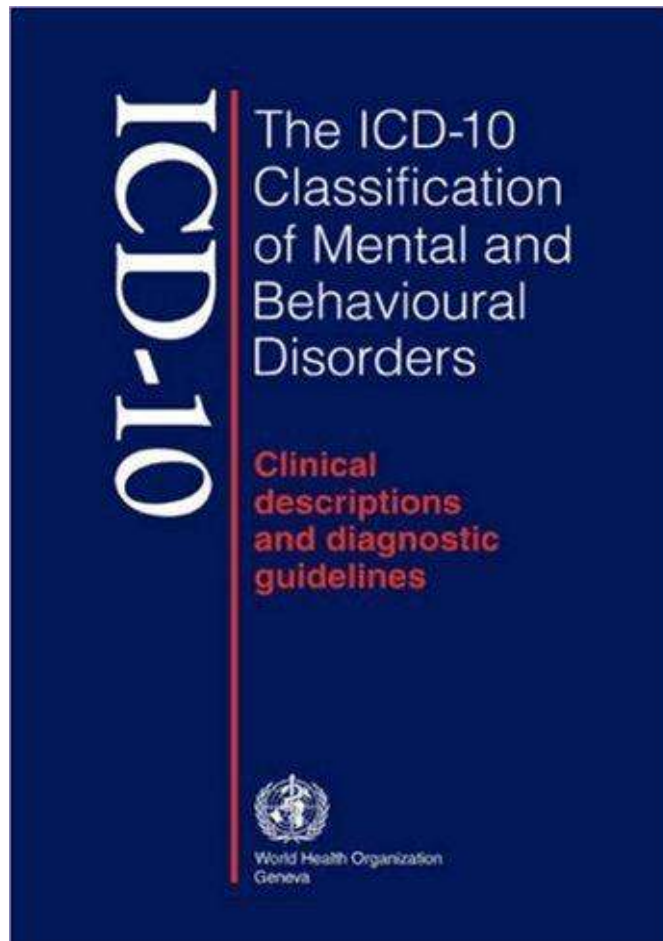
International Classification of Diseases: 10th Revision

ICD-10

International Classification of Diseases

Tenth Revision

World Health Organization
Geneva
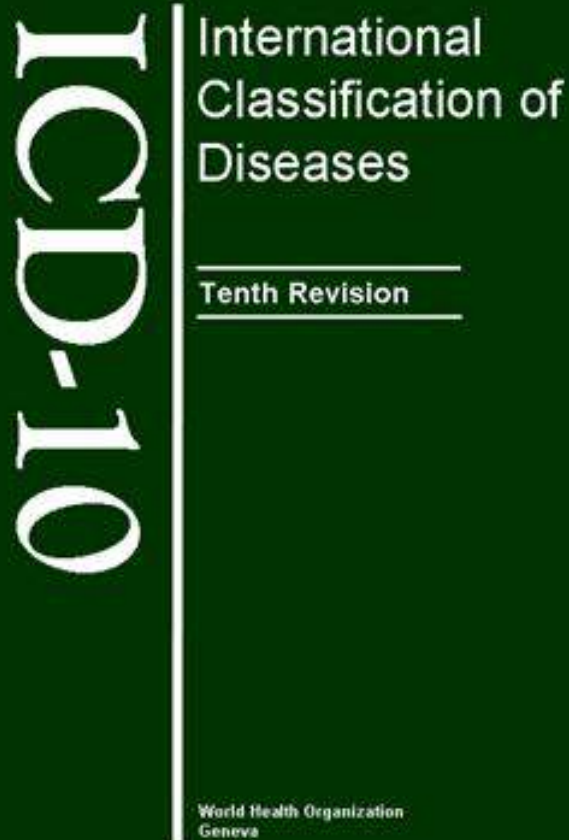
- Endorsed in 1990 by the World Health Assembly, published in 1992, came into use in countries in 1994

- Alphanumeric coding

- Increased number of categories

- 11th revision in progress, expected to be released in 2018.

ICD-10 Chapter V: Mental and Behavioural Disorders

Tenth and eleventh revisions of ICD

- About 120 countries report mortality statistics to WHO according to ICD-10, and many countries are using ICD for morbidity statistics and for billing in health insurance

- International Classification of Diseases for Morbidity and Mortality Statistics, 11th revision (ICD–11 MMS), released in October 2016 for consultation (ongoing).

Draft diagnostic guidelines for substance dependence for ICD-11

The diagnosis requires two or more of three central features to be present in the individual at the same time and to occur repeatedly over a period of at least 12 months or continuously over a period of at least one month. The features are:

1. **Impaired control over substance use,** be this its onset, level, circumstances or termination of use of a psychoactive substance, often accompanied by a subjective sense of urge or craving to use the substance.

2. **Substance use is a priority in life** such that its use takes precedence over other interests or enjoyments, daily activities, responsibilities or health or personal care, and may continue despite harmful consequences.

3. **Physiological features** (indicative of neuro-adaptation to the substance) as manifested by: (i) **tolerance**, (ii) **withdrawal symptoms** following cessation or reduction in substance use, or (iii) repeated **use** of the substance (or pharmacologically similar substance) where the use is to prevent or alleviate withdrawal symptoms.

First results of examining concordance of draft ICD-11 with other classification systems based on population-based survey data (Lago et al, *Lancet Psychiatry* 2016; 3: 673-84)

Review

Concordance of ICD-11 and DSM-5 definitions of alcohol and cannabis use disorders: a population survey

Luise Lago, Raimondo Bruno, Louisa Degenhardt

The proposed criteria for alcohol and cannabis use disorders in the 11th edition of ICD (ICD-11) will be presented to the World Health Assembly in 2017, but the beta-phase descriptions have been released. We compared them with those in the tenth edition (ICD-10) and the American Psychiatric Association's DSM fourth edition (DSM-IV) and fifth edition (DSM-5), in a nationally representative sample of adult Australians. Disorders were assessed with the WHO World Mental Health Composite International Diagnostic Interview. The proportions classified as being dependent on alcohol and cannabis were similar with ICD-10, ICD-11, and DSM-IV, whereas for DSM-5, the proportion of lifetime users meeting the criteria for moderate to severe use (most comparable to dependence in the other systems) was far higher. We assessed whether criteria for alcohol and cannabis use described unidimensional syndromes for each, and all definitions seemed to do so. Classification of alcohol and cannabis use disorders, although simplified in ICD-11, was in almost perfect agreement with the classifications of ICD-10 and DSM-IV. With DSM-5, use disorder seemed to capture a different aspect of problematic use and selected a different group of individuals from the other systems. How the newest definitions will become used remains to be seen. The choice of classification might depend on the clinical population of interest.

Introduction

Most people who use psychoactive substances do so

more severe use disorders, all criteria were given equal weight.[89] Thus, DSM-5 includes 11 criteria (table 1), of

Cumulative Distribution of Alcohol Consumption in the United States

- **65%** of the population are drinkers*

- **Males** reported drinking **74%** and **females 26%** of all alcohol consumed

- **73%** of the alcohol is consumed by **10%** of the population
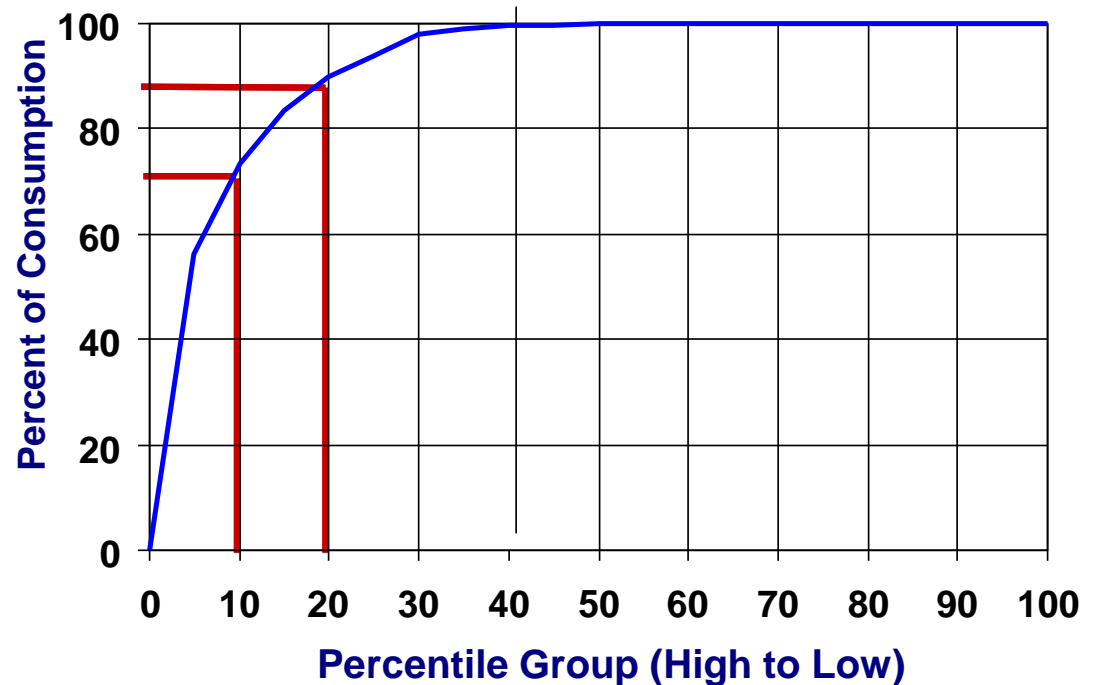
* Individuals who reported drinking at least one drink in past 12 months

NIAAA National Epidemiological Survey on Alcohol and Related Conditions (NESARC) (2001-2002).

Clinical utility of categorisation of alcohol consumption and glucose blood levels

High alcohol consumption

- Harmful or hazardous alcohol use

- Alcohol dependence
  - Probability and recognition of withdrawal syndrome
  - Probability and recognition of alcohol-induced psychoses and other mental disorders
  - Pharmacotherapy of alcohol dependence
  - Intensity of psychosocial interventions
  - Risk of alcohol-attributable harm
  - Risk of AD in biological relatives

Hyperglycaemia

- Benign temporary hyperglycaemia

- Diabetes Type 1 (10%)

- Diabetes Type 2 (90%)
  - About half of cases can be managed by lifestyle changes
  - About half of cases require medical treatment

- Adverse effects of prescribed medicines

- Pancreas and brain tumours….

Commentaries on O'Brien (2011)

APPLYING AN INTERNATIONAL PUBLIC HEALTH PERSPECTIVE TO PROPOSED CHANGES FOR DSM-V

O'Brien outlines the main changes proposed for classification of substance use disorders in DSM-V, based on an extensive consultation process and a review of the available evidence [1]. In view of DSMs wide international use, particularly for research, the proposed changes may have an impact on clinical, research and educational practices in many parts of the world. It is also important to consider potential implications of these proposals for the development of the relevant sections of the next version of the WHO's International Classification of Diseases and Related Health Problems (ICD), which remains the global standard for health information and reporting and the estimation of disease burden.

The World Health Organization (WHO) is currently working on the revision of the ICD-10 [2]. The eleventh revision of the ICD (ICD-11) is scheduled for submission to the World Health Assembly for approval in 2014. Development of the ICD-11 classification of mental and behavioral disorders is being led by the WHO Department of Mental Health and Substance Abuse, and includes the revision of the diagnostic classification of mental disorders for both mental health specialists [3] and for use in primary care settings [4]. The ICD-11 development process includes consultations with Work Groups involved in the development of DSM-V [5].

Without pre-empting the conclusions of the ICD-11 development process, we offer some reflections on the proposed DSM-V changes, in order to stimulate scientific debate on these issues.

population health. According to the latest WHO estimates, alcohol use is responsible for 4.5% of total disease burden, tobacco use for 3.7% and illicit drug use for 0.9% of the global burden of disease [7]. A significant portion of alcohol- and drug-attributable disease burden is related to injuries, for example, in the case of road traffic accidents due to driving under the influence of psychoactive substances, and to other health conditions that may be caused or adversely affected by substance use in the absence of a 'substance dependence' syndrome. In spite of the obvious public health relevance of substance use in such cases, appropriate recording of the role of alcohol, tobacco and drug use continues to be a significant challenge in the practical implementation of current classification systems. From the standpoint of public health utility, this almost certainly leads to an underestimation of the true disease burden attributable to substance use and the impact of substance use and associated disorders on health care systems.

From the standpoint of clinical utility, particularly in primary health care and other non-specialized health care settings, a core purpose of the classification is to provide a basis for guidance on the most effective interventions for a given diagnosis and therefore to improve access to effective treatments. This raises an important issue in relation to the DSM-V proposal described by O'Brien to eliminate the abuse/dependence distinction and to replace it with a single category of 'substance use disorder'. While there may be data to suggest that distinction represents an artificial dichotomization of a continuum or spectrum, the distinction between abuse or hazardous and harmful use and dependence syndrome has been a clinically useful one, more of less

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International Classification of Diseases for Morbidity and Mortality Statistics, 11th revision (ICD–11 MMS)

- Version for Member State comments

- Chapter 6: Mental, behavioural or neurodevelopmental disorders

- Chapter 6 include section "Disorders due to substance use or addictive behaviours"

- Several other chapters are important for substance use related health conditions.

ICD-11

International Classification of Diseases for Mortality and Morbidity Statistics
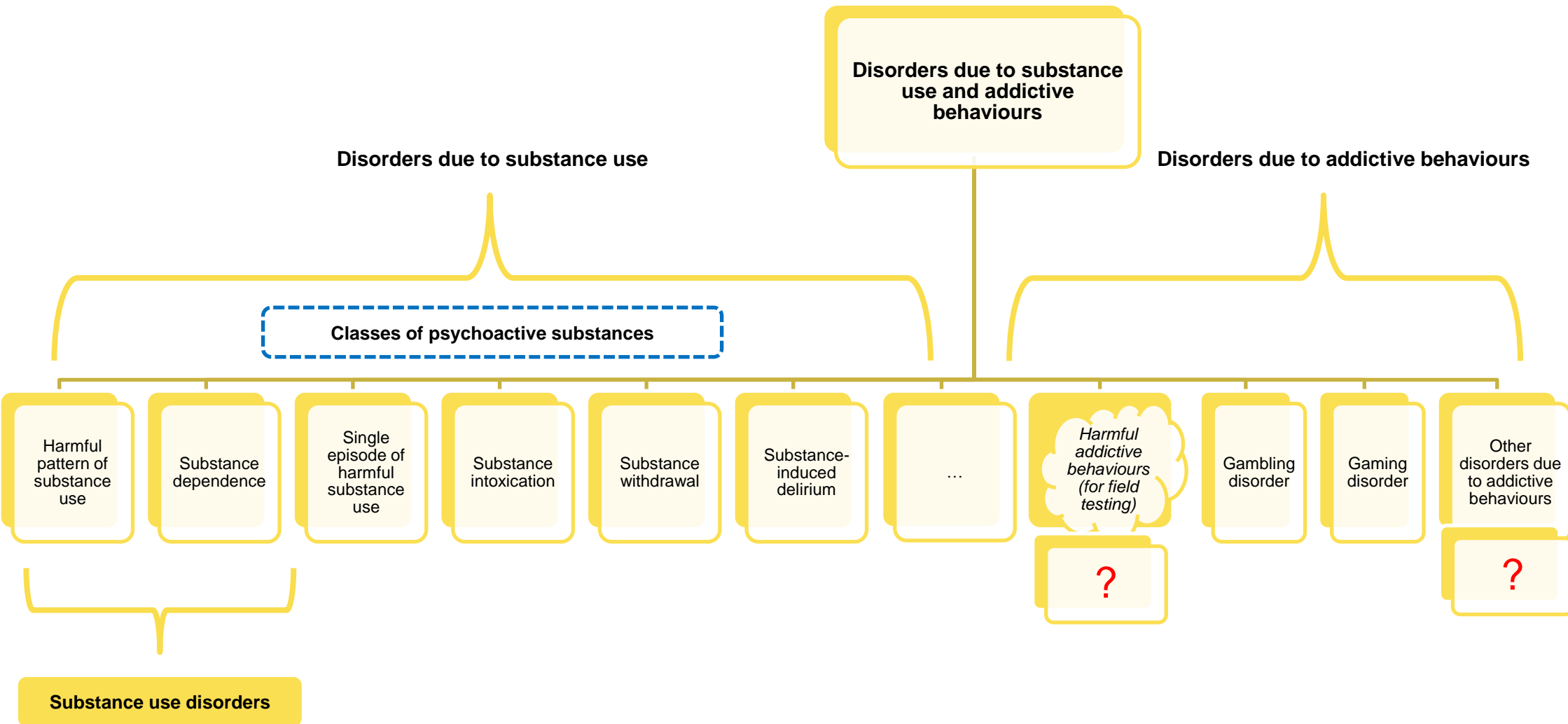
Eleventh Revision

2016 Edition for Member State comment
High level overview

World Health Organization

ICD-11 linearization for disorders due to substance use

6B80-6D6Z	DISORDERS DUE TO SUBSTANCE USE
Second level	Type of substance, e.g. Disorders due to use of alcohol
Third level (3-digit code)	Clinical condition: • 6B80 Alcohol intoxication • 6B81 Harmful pattern of use of alcohol • 6B82 Alcohol dependence • 6B83 Alcohol withdrawal • 6B84 Alcohol-induced delirium • …
Fourth level (4-digit code)	Clinical subtype: Alcohol intoxication – mild (6B80.1)

Disorders Due to Substance Use and Addictive Behaviours in the draft ICD-11: key innovations (1)

- Introduction of a section "Disorders due to substance use or addictive behaviours" in Chapter 6

  - Disorders due to substance use

  - Disorders due to addictive behaviours

- Conceptual integration of "Gambling disorder" with disorders due to substance use (in ICD-10 – under "Impulse control disorders)

- Introduction of a new diagnostic category "Gaming disorder" with two sub-categories:

  - "Gaming disorder, predominantly online

  - Gaming disorder, predominantly offline

Draft ICD-11 definition of "Gaming disorder"

Gaming disorder is manifested by a persistent or recurrent gaming behaviour (i.e., 'digital gaming' or 'video-gaming') characterised by an impaired control over gaming, increasing priority given to gaming over other activities to the extent that gaming takes precedence over other interests and daily activities and continuation of gaming despite the occurrence of negative consequences. The behaviour pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning. …

Disorders Due to Substance Use in the draft ICD-11: key innovations (2)

- Severity qualifiers for acute intoxication (mild-moderate-severe)

- "Harmful use" changed to "Harmful pattern of use"

- Harm to health of others included in the scope of definition of "harmful use"

- Introduction of a new diagnostic category "Single episode of harmful substance use"

- Simplified diagnostic guidelines for "substance dependence"

- Revised classes of psychoactive substances.
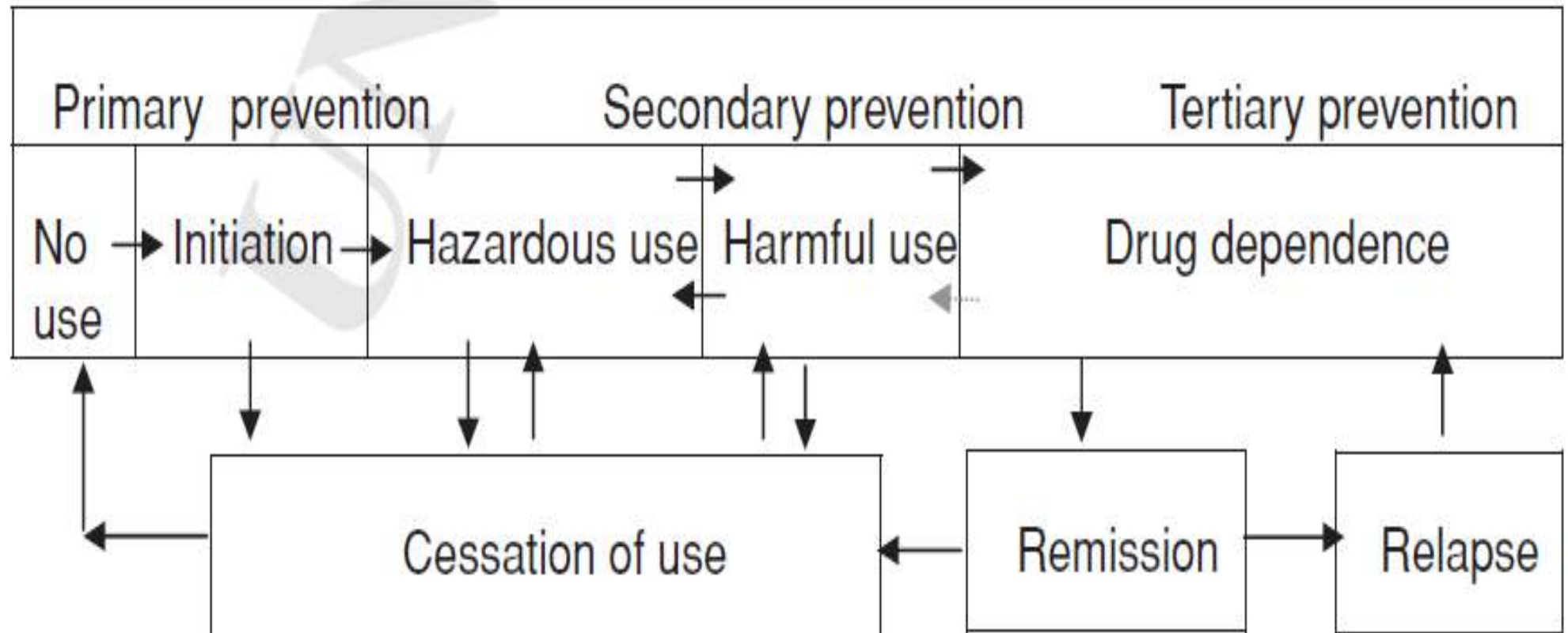
Proposed classes of substances in the draft ICD-11

- Alcohol
- Opioids
- Cannabis
- Sedatives, hypnotics or anxiolytics
- Cocaine
- Caffeine
- Stimulants including amphetamine, methamphetamine or methcathinone
- Hallucinogens
- Nicotine
- Volatile inhalants
- MDMA and related drugs
- Dissociative drugs including ketamine and PCP
- Synthetic cannabinoids
- Synthetic cathinones
- Other specified *or multiple* psychoactive substances
- Unknown or unspecified psychoactive substances
- Non-psychoactive substances (anabolic steroids…)

ICD-11 Draft (June 2017): 26 chapters plus supplementary sections on functioning and extension codes

- ...

- Chapter 21: Symptoms, signs, clinical forms, and abnormal clinical and laboratory findings, not elsewhere classified

- Chapter 22: Injury, poisoning and certain other consequences of external causes

- Chapter 23: External causes of morbidity and mortality

- Chapter 24: Factors influencing health status or contact with health services.

Trajectories of drug use and prevention continuum
(Poznyak, White, Clark, 2011 / based on Bonomo & Proimos, 2005/)

Primary prevention		Secondary prevention		Tertiary prevention
No use	Initiation → Hazardous use	Harmful use		Drug dependence

Cessation of use

Remission

Relapse

Draft ICD-11 Chapter 24: Factors Influencing health status and contact with health services

Factors associated with health behaviors:

- Hazardous substance use
  - Alcohol
  - Nicotine
  - Drugs
    - Opioids
    - Cannabis…
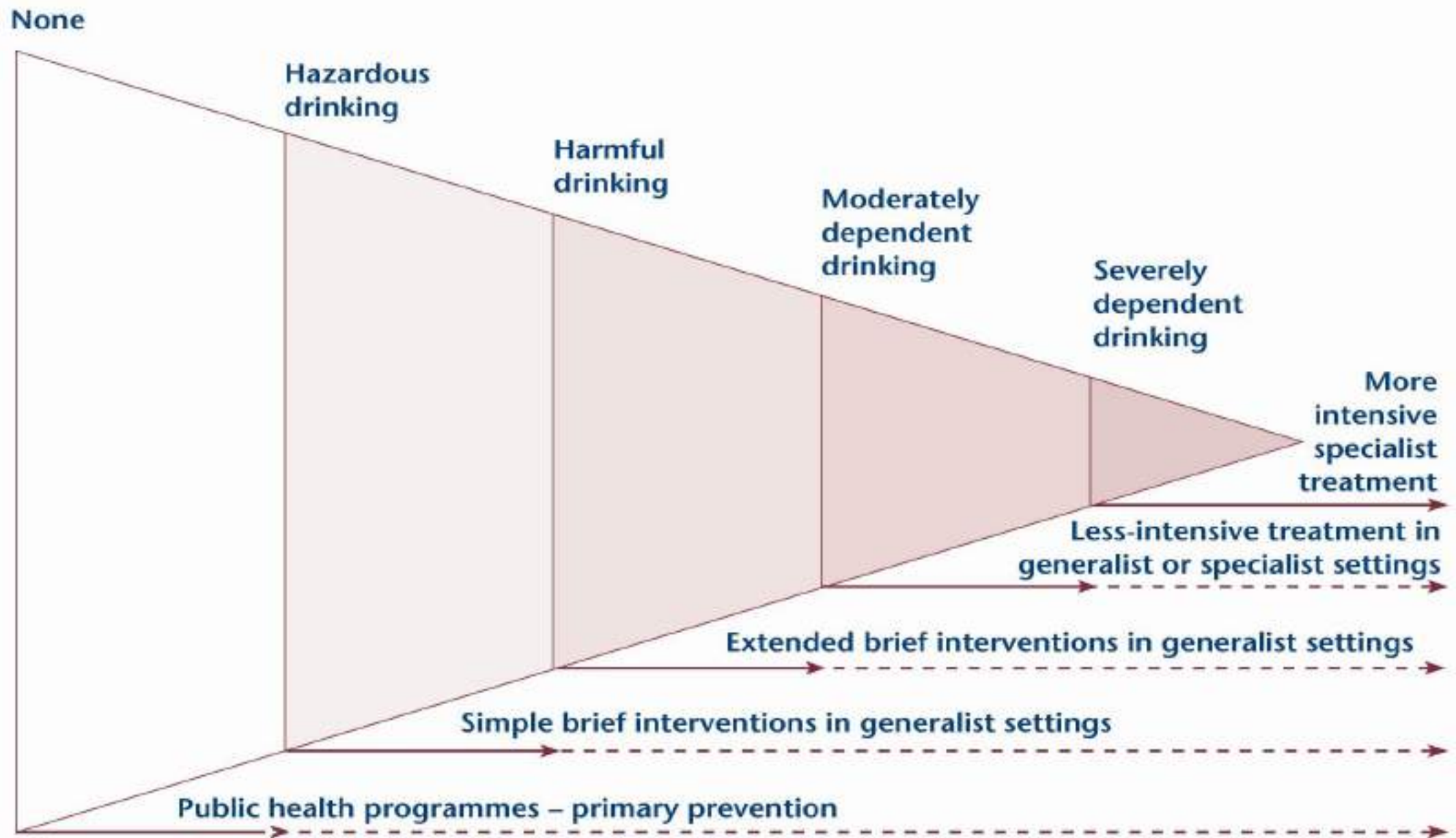- Hazardous gambling or betting (QE92)
- Hazardous gaming (QE93).

Figure 1 A spectrum of responses to alcohol problems

Source: *Rastrick et al. (2006),*[1] *adapted from Institute of Medicine (1990).*[2]

Stages of Field testing for disorders due to substance use and addictive behaviours

- Study 1. Utility, Feasibility and Comparability with ICD-10
  - Key informant survey using the questionnaire developed for this purpose
  - Focus groups (including professionals from non-specialized services)
  - Expert review
  - Analysis of use of ICD-10 relevant codes in the country
  - Consensus conference with participants representing key stakeholders using a briefing kit and report template

- Study 2: Case-control study of diagnostic guidance of ICD-11 versus ICD-10 (through Global Clinical Practice Network)

- Study 3: Secondary data analysis to look at the proposed category of "single episode" and diagnostic features for dependence and harmful pattern of use.

Invitation to join the
Global Clinical Practice Network

To register, please visit:
www.globalclinicalpractice.net

**Registration is available in 9 languages:
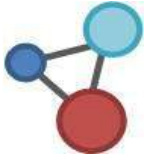Arabic, Chinese, English, French, Japanese,
German, Portuguese, Russian, Spanish**

Thank you for your attention

Further information at:

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

http://www.who.int/mental_health/en/

http://apps.who.int/classifications/icd11/

Thank you!

www.twist-train.eu