

*Global Burden of Disease*  
**Mental Disorders and  
Illicit Drug Use Expert Group**



**Methodology Part 2:  
Systematic Review**

7 October 2007

## **Methodology Part 2: Systematic Review**

### **Systematic review**

Preliminary work has identified dual challenges in the data sourcing process. A large body of research exists for mental disorders in developed countries. The extent of the data available creates a necessity for researchers to be able to grade sources of data based on quality of data collection and informativeness of reporting. Hence a method of quantifying quality for each data source is required to distinguish those of greater and lesser value. A second challenge is the sourcing of data for developing countries. Few sources of data on parameters of mental disorders in developing countries are expected to be identified in peer-reviewed journals. Therefore, a secondary stage of the systematic review will focus on location of grey literature and unpublished sources of data.

Data from nationally representative population-based studies are recorded as the 'gold standard'. Data from smaller, less representative samples also being accepted on the basis that such data may be the only available sources of estimates for many countries. A range of quality indicators will be extracted along with epidemiologic parameters to ensure transparency of quality for each data source. A Quality Index has been developed based on a range of variables extracted from each identified source of data so that representativeness of the studies can be quantified and used for comparison of individual data sources. The Quality Index was recently approved by the Core Group Cluster Leader and is attached (see Appendix A for mental disorders quality index and Appendix B for the illicit drugs quality index, including a specific quality index developed for studies assessing the mortality associated with illicit drug use).

Systematic searches for data for each disorder and drug type followed structured stages. The first stage of the systematic search is a search of the peer-reviewed literature. The search strategy is consistent with the methodology recommended by the Meta-analysis of Observational Studies in Epidemiology (MOOSE) group (Stroup et al, 2000). The search protocol for identifying incidence, prevalence, remission and mortality parameters, involves use of a broad search string to interrogate three electronic databases. Medline, EMBASE and PsycINFO databases (see Appendix C for descriptions of these databases) were chosen with searches limited to human subjects and publication dates of 1980 to 2007 for the mental disorders group, and 1990 to 2008 for the illicit drug use group. No limitations were set on language of publication. Search strings, tailored to each database (including keywords, MeSH terms, Emtree terms and explode terms) were devised for different subjects areas (see Appendix D for mental disorders search strings and Appendix E for illicit drug dependence/use search strings).

The extensive list of identified articles was then culled according to predetermined criteria (see Appendix F for diagrammatic representation of mental disorders search strategy, and Appendix G for the Illicit Drug Use). Once relevant articles were identified, parameters and quality variables were extracted onto a summary sheet and the data then entered into the GBD database. Quality assurance measures were in place to ensure accuracy of data extraction and database entry including the extraction

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of a random sample of articles by two researchers for consistency comparisons, and checking data entry for entry errors on a regular schedule. Reference lists of international reviews are screened for additional data sources.

The second stage of the systematic search will focus on filling the gaps identified through the literature review. Experts in specific fields will be contacted for possible sources of missing data, and grey literature sources will be explored. The mental disorders group anticipate that data collected in the World Mental Health (WMH) Survey Initiative will assist in providing prevalence estimates for a number of countries. The WMH Survey Consortium includes nationally or regionally representative surveys in 26 countries comprising Brazil, Colombia, Costa Rica, Mexico, Peru, United States, Nigeria, South Africa, Lebanon, Iraq, Belgium, Bulgaria, France, Germany, Israel, Italy, Netherlands, Northern Ireland, Romania, Ukraine, Turkey, China, Spain, India, Japan, New Zealand (WHO, 2005). All surveys used the WMH-CIDI to assess presence of disorders by DSM-IV and ICD-10 diagnostic criteria, and included: anxiety disorders, mood disorders, and disorders characterised by impulse control. Additionally, data from the World Drug Report will be assessed for estimates of burden of illicit drug use, along with government reports and household surveys.

## Appendix A

### MENTAL DISORDERS QUALITY INDEX VARIABLES

#### 1. Demographics

##### a) Age/sex specific values presented

- Yes = 2
- Some (e.g. sex and 2 broad age ranges only) = 1
- No = 0

##### b) Were the target population and the observation period well defined?

- Yes = 1
- No = 0

#### 2. Case Definitions

##### Diagnostic criteria

- Use of diagnostic system reported (DSM, ICD, RDC) = 1
- Own system /symptoms described/no system/not specified = 0

#### 3. Case Ascertainment

##### Method of case ascertainment

- Community survey/multiple institutions = 2
- Inpatient/inpatients and outpatients/case registers = 1
- Not specified = 0

#### 4. Measurement Instrument

##### a) Administration of measurement protocol

- Administered interview = 3
- Systematic casenote review = 2
- Chart diagnosis/case records = 1
- Not specified = 0

##### b) Measurement Administration

- Administration by clinician/trained rater = 2
- Self administered = 1
- Not specified = 0

#### 5. Completeness of follow-up in cohort studies and response in cross-sectional studies

- Excellent (>80%) = 2
- Average (60-79%) = 1
- Poor (<60%) = 0

## 6. Population Representativeness

### Catchment Area

- Broadly representative (national or multi-site survey) = 2
- Small area/not representative (single community, single university) = 1
- Convenience sampling/ other (primary care sample/treatment group) = 0

## 7. Prevalence / Remission / Mortality measures

- a<sub>1</sub>) Prevalence measure
- Point prevalence (e.g. one month) = 2
  - 12-month prevalence = 1
  - Lifetime prevalence = 0

**OR**

- a<sub>2</sub>) Definition of Remission clearly stated
- Yes = 1
  - No = 0

**OR**

- a<sub>3</sub>) Definition of measure of all-cause mortality clearly stated and presented as age-sex standardized measure or age-sex specific measures
- Yes = 1
  - No = 0

**AND**

- b) Numerator and denominator presented
- Yes = 1
  - No = 0

- c) Numerator and denominator based on identical epochs and identical catchment areas
- Yes = 1
  - No = 0

## 8. Important qualifications on study not captured in the above (text)

## Appendix B

### ILLICIT DRUG USE QUALITY INDEX

#### 1. Case ascertainment

2	<ul style="list-style-type: none"><li>Nationwide survey/register/database (not for a specific population)</li><li>Multiple institutions/centres</li></ul>
1	<ul style="list-style-type: none"><li>Regional</li><li>Case/death registers</li><li>One treatment institution/hospital etc.</li></ul>
0	<ul style="list-style-type: none"><li>Not specified</li></ul>

#### 2. Measurement instrument

3	<ul style="list-style-type: none"><li>Interview/self-reported drug use (comment about reporting type, eg. self-report or standardised interview)</li><li>In treatment for drug dependence</li></ul>
2	<ul style="list-style-type: none"><li>Systematic case note/database/reports review</li><li>Blood and/or urine toxicology screen</li></ul>
1	<ul style="list-style-type: none"><li>Chart diagnosis</li></ul>
0	<ul style="list-style-type: none"><li>Not specified</li></ul>

#### 3. Diagnostic criteria

1	<ul style="list-style-type: none"><li>Any diagnostic system reported for drug dependence or abuse (not use) eg., DSM, ICD, RDC (comment, eg. DSM)</li><li>Dependence inferred from type of sample population (comment, eg. treatment centre)</li></ul>
0	<ul style="list-style-type: none"><li>Drug use</li><li>Own system</li><li>Symptoms described</li><li>No system</li><li>Not specified</li></ul>

#### 4. Estimate

1	<ul style="list-style-type: none"><li>Yes (comment on what type of estimate, eg. relative risk, SMR, prevalence, incidence)</li></ul>
0	<ul style="list-style-type: none"><li>No</li></ul>

#### 5. Numerator and denominator presented?

1	<ul style="list-style-type: none"><li>Yes</li></ul>
0	<ul style="list-style-type: none"><li>No</li></ul>

**6. Numerator and denominator based on identical epochs and identical catchment areas?**

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<b>1</b>	<ul style="list-style-type: none"><li>• Yes</li></ul>
<b>0</b>	<ul style="list-style-type: none"><li>• No</li></ul>

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**7. Completeness of follow-up in cohort studies and response for cross-section studies**

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<b>2</b>	<ul style="list-style-type: none"><li>• High response rate/inclusion of defined sample population (&gt;80%)</li></ul>
<b>1</b>	<ul style="list-style-type: none"><li>• Moderate response rate (60% - 79%)</li><li>• Exclusions made</li></ul>
<b>0</b>	<ul style="list-style-type: none"><li>• Poor response rate (&lt;60%)</li></ul>

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**8. Representative of the catchment area?**

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<b>2</b>	<ul style="list-style-type: none"><li>• Well represented</li><li>• National registers</li><li>• Multiple institutions across states</li></ul>
<b>1</b>	<ul style="list-style-type: none"><li>• Small area</li><li>• Not representative of nation</li><li>• One treatment centre</li><li>• Registers of specific populations, eg. pilots</li></ul>
<b>0</b>	<ul style="list-style-type: none"><li>• Convenient sampling</li><li>• Other (comment)</li></ul>

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**9. Age/sex specific values presented?**

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<b>2</b>	<ul style="list-style-type: none"><li>• Yes</li></ul>
<b>1</b>	<ul style="list-style-type: none"><li>• Some (eg. sex and 2 broad age ranges only)</li></ul>
<b>0</b>	<ul style="list-style-type: none"><li>• No</li></ul>

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**10. Quality of methods of reporting**

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<b>Text</b>	<ul style="list-style-type: none"><li>• Eg. translation of tools, interviewer's quality, quality control monitoring, limitations of data, high quality methods used etc</li></ul>
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**11. Duration of follow-up**

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<b>Text</b>	<ul style="list-style-type: none"><li>• Eg. Number of years at follow-up – small sample size over a number of years etc.</li></ul>
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## ILLICIT DRUG USE QUALITY INDEX: MORTALITY STUDIES

Variable name	Description	Options	Score
Case ascertainment	How representative are the cases chosen?	All cases from a geographically defined population (e.g., all heroin users in treatment in a state or country)	3
		Random, but representative sample of a population (e.g. X number of treatment centres, which are representative of state or country)	2
		Sample restricted to one city (e.g, multiple treatment centres in a city)	1
		Convenience sample, where the representativeness of the sample is unclear	0
Measurement	Measurement instrument to determine use or dependence.	Dependence assessed via structured interview, or in treatment for dependence	2
		Diagnosis from chart/drug use (without formal assessment)	1
		Not specified	0
Diagnosis	Indicates whether dependence was diagnosed.	Any diagnostic system reported for drug dependence or abuse/Dependence inferred from type of sample population	2
		Drug use/Own system/Symptoms described	1
		Not reported	0
Estimate	Type of estimate	Crude Mortality Rate:	
		Yes	1
		No	0
		Standardised mortality ratio:	
Yes	1		
No	0		
Num/Den	Was the numerator <i>and</i> denominator presented for the estimates?	Crude Mortality Rate: Person years follow-up reported (denominator)?	
		Yes	1
		No	0
		Standardised Mortality Ratio: Expected deaths reported (denominator)?	
		Yes	1
No	0		

Variable name	Description	Options	Score
Num/Den Area/Epoch	Were the numerator and denominator based on identical epochs and identical catchment areas for estimate of interest?	Yes (for CMRs, the estimate will by definition be of the same epoch and catchment area, for SMRs, the expected deaths need to be for the same catchment area and epoch)	1
		No	0
Completeness	Captures response rates and attrition rates	High response rate/follow-up rate (>80%)	2
		Moderate response rate (60-79%)	1
		Exclusions Poor response rate (<60%)made	0
Representativeness	Determines generalisability of the sample to the population	Well represented/National registers/Multiple institutions across states	2
		Small area/Not representative of nation/One treatment centre/Registers of specific populations	1
		Convenience sampling/Not reported	0
Age/sex	Identifies whether age and/or sex specific values were reported.	Yes	2
		Some (e.g., sex and 2 broad age ranges only)	1
		No	0
<b>Qualitative information (free text)</b>			
Quality	To capture methods that were not reported on by other variables (free text)		
Duration FU	To obtain more information about follow-up periods and sample sizes when doing so (free text)		
Quality Index Notes	Insert any other quality information that has not been captured by other variables. For example, note whether the study is one that uses indirect prevalence methods, and state which data sources were used for this.		
<b>Total Score</b>			
Out of a possible 18			

## Appendix C

### Database information

Database	Information
Medline	Compiled by the U.S. National Library of Medicine (NLM) and published on the Web by Community of Science, MEDLINE® is the world's most comprehensive source of life sciences and biomedical bibliographic information. It contains nearly eleven million records from over 7,300 different <a href="#">publications</a> from 1965 to November 16, 2005. (Source: <a href="http://medline.cos.com/docs/abmedl.shtml">http://medline.cos.com/docs/abmedl.shtml</a> )
EMBASE	EMBASE is a biomedical and pharmacological database. The EMBASE journal collection is international with over 5,000 biomedical journals from 70 countries. EMBASE contains over 11 million records from 1974 to present. EMBASE features comprehensive coverage of: <ul style="list-style-type: none"><li>• Drug Research, Pharmacology, Pharmacy, Pharmacoeconomics, Pharmaceutics and Toxicology</li><li>• Human Medicine (Clinical and Experimental)</li><li>• Basic Biological Research</li><li>• Health Policy and Management</li><li>• Public, Occupational and Environmental Health</li><li>• Substance Dependence and Abuse</li><li>• Psychiatry</li><li>• Forensic Science</li><li>• Biomedical Engineering and Instrumentation</li></ul> (Source: <a href="http://www.elsevier.com/wps/find/bibliographicdatabasedescription.cws_home/523328/description#description">http://www.elsevier.com/wps/find/bibliographicdatabasedescription.cws_home/523328/description#description</a> )
PsychINFO	PsycINFO is an abstract database of psychological literature from the 1800s to the present. More than 2.4 million records as of January 2008, including journals, books and dissertations. Over 2150 journal titles covered, 98% peer-reviewed; also books and dissertations. (Source: <a href="http://www.apa.org/psycinfo/">http://www.apa.org/psycinfo/</a> )

## Appendix D

Search strings for mental disorders

### Eating Disorders

#### Incidence and Prevalence

Medline and PsychINFO	(anorexia or bulimia or eating disorder*) and (prevalence or incidence) not animal*
EMBASE	(anorexia or bulimia or "eating disorder" or "eating disorders") and (prevalence or incidence)

#### Remission and Mortality

Medline and PsychINFO	(anorexia or bulimia or (eating disorder) or (eating disorders)) and (remission or relapse or duration or recovery or (life expectancy) or (cohort study) or (population study) or deaths or mortality or survival or (disease course))
EMBASE	(anorexia or bulimia or 'eating disorder' or 'eating disorders') and (remission or relapse or 'disease duration' or recovery or 'life expectancy' or 'cohort study' or 'population study' or deaths or mortality or survival or 'disease course')

### Anxiety Disorders

#### Incidence and Prevalence

Medline	((KW=inciden* or KW=prevalen* or KW=cohort) or ID=epidemiol* or DE=epidemiol*) AND ((KW=((obsessive compulsive disorder*) or (obsessive compulsive personality disorder*) or ocpd) or (KW=agoraphobia*) or (KW=(social phobia*)) or (KW=((post-traumatic stress disorder*) or PTSD)) or (KW=(panic disorder*)) or (KW=(anxiety disorders*))))
PsychINFO	((KW=inciden* or KW=prevalen* or KW=cohort) or ID=epidemiol* or DE=epidemiol*) AND ((KW=((obsessive compulsive disorder*) or (obsessive compulsive personality disorder*) or ocpd) or (KW=agoraphobia*) or (KW=(social phobia*)) or (KW=((post-traumatic stress disorder*) or PTSD)) or (KW=(panic disorder*)) or (KW=(anxiety disorders*))))
EMBASE	((('anxiety disorder'/syn OR 'anxiety disorders'/syn AND [embase]/lim AND [1980-2008]/py) OR ('anxiety disorder'/de OR 'anxiety neurosis'/exp OR 'generalized anxiety disorder'/exp OR 'obsessive compulsive disorder'/exp OR 'agoraphobia'/exp OR 'posttraumatic stress disorder'/exp OR 'social phobia'/exp) OR ('post traumatic stress disorder'/exp OR 'post traumatic stress disorders' OR 'ptsd'/exp AND [1980-2008]/py) OR ('agoraphobia'/syn AND [1980-2008]/py) OR ('panic disorder'/syn OR 'panic disorders' AND [1980-2008]/py) OR ('obsessive compulsive disorder'/syn OR 'obsessive compulsive disorders' AND [1980-2008]/py) OR ('social phobia'/syn OR 'social phobias' AND [1980-2008]/py)) AND (((('incidence'/exp OR 'incidence') OR ('prevalence'/exp OR 'prevalence') AND [1980-2008]/py) OR (cohort AND studies) OR ('longitudinal study'/exp OR 'cohort studies' OR 'cohort study')) NOT (('animal'/exp OR 'animal experiment'/exp) NOT 'human'/exp) AND [embase]/lim

#### Remission

Medline	
PsychINFO	
EMBASE	

### Depression and Bipolar Disorders Anxiety Disorders

#### Incidence and Prevalence and Remission and Mortality

Medline	((depressive disorder) or depression or (depression, post-partum) or (long term synaptic depression) or (dysthymic disorder) or (cyclothymic disorder) or (bipolar disorder)) and (prevalence or incidence or mortality or remission)
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PsychINFO	((major depression) or (dysthymic disorder) or (cyclothymic disorder) or (bipolar disorder) or (affective disorders) or (affective disorders) or (post-partum depression)) and (epidemiology or remission)
EMBASE	

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## Appendix E

## Search strings for peer-reviewed literature searches for illicit drug dependence/use

Database	Search group	Search terms
Medline*	Cannabis	Cannabis OR cannabin\$ OR marijuana OR bhang OR ganga OR hashish OR hemp or cannabis indica OR cannabis sativa or hemp plant or marihuana <b>Exp cannabis/</b>
	Heroin/Opium	heroin or opium or opiate\$ <b>Exp Opium/ or exp Narcotics/ or exp Heroin Dependence/ or exp Heroin/ or exp Morphine/ or exp Opioid-Related Disorders/ or exp Opiate Alkaloids/ or exp Methadone/ or exp Analgesics, Opioid/</b>
	ATS	ATS OR amphetamine type stimulant\$ OR amphetamine\$ OR methamphetamine OR deoxyephedrine OR desoxyephedrine OR Desoxyn OR madrine OR metamfetamine OR methamphetamine hydrochloride OR methylamphetamine OR n-methylamphetamine OR d-amphetamine OR dextroamphetamine sulphate OR dexamphetamine OR dexedrine OR dextro-amphetamine sulphate OR dextroamphetamine sulphate OR d-amphetamine sulphate OR stimulant\$ <b>exp amphetamines/ or exp amphetamine/ or exp dextroamphetamine/ or exp p-chloroamphetamine/ or exp 2,5-dimethoxy-4-methylamphetamine/ or exp p-hydroxyamphetamine/ or exp iofetamine/ or exp methamphetamine/ or exp benzphetamine/ or exp phentermine/ or exp chlorphentermine/ or exp mephentermine/ or exp amphetamine-related disorders/</b>
	Cocaine	Cocaine <b>exp Cocaine-Related Disorders/ or exp Cocaine/ or exp Crack Cocaine/</b>
	Benzos	Benzodiazepine\$ OR benzo OR Benzos OR alprazolam OR anthramycin OR benzodiazepinones OR brotizolam OR bromazepam OR camazepam OR chlordiazepoxide OR cinolazepam OR clonazepam OR clorazepate OR clorazepate dipotassium OR clotiazepam OR cloxazolam OR delorazepam OR devazepide OR diazepam OR etizolam OR estazolam OR fludiazepam OR flumazenil OR flunitrazepam OR flurazepam OR halazepam OR haloxazolam OR ketazolam OR loprazolam OR lorazepam OR lormetazepam OR medazepam OR midazolam OR nimetazepam OR nitrazepam OR nordazepam OR oxazolam OR oxazepam OR phenazepam OR pinazepam OR pirenzepine OR prazepam OR quazepam OR temazepam OR tetrazepam OR tofisopam OR triazolam OR Xanax OR Lexomil OR Valium OR Ativan OR Klonopin OR Restoril OR Serax OR Rohypnol OR Halcion OR Librium OR Dalmane OR ProSom OR Mogadon <b>exp "hypnotics and sedatives"/ or exp anti-anxiety agents/ or exp benzodiazepines/ or exp benzodiazepinones/ or exp alprazolam/ or exp bromazepam/ or exp chlordiazepoxide/ or exp clonazepam/ or exp clorazepate dipotassium/ or exp devazepide/ or exp diazepam/ or exp estazolam/ or exp flumazenil/ or exp flunitrazepam/ or exp flurazepam/ or exp lorazepam/ or exp medazepam/ or exp midazolam/ or exp nitrazepam/ or exp nordazepam/ or exp oxazepam/ or exp pirenzepine/ or exp prazepam/ or exp temazepam/ or exp triazolam/</b>
	Gold standard Epidemiology	"prevalence" OR "inciden\$" OR "epidemiolog\$" OR "history" OR "patterns" OR "survey\$" OR "data collection\$" OR "screening" OR "cohort" OR "population study" OR "population sample" OR "surveillance" OR "community sample" OR "statistics" OR "duration" OR "severity" OR "chronic" OR "long-term" OR "prolonged" <b>exp Epidemiology/ or Exp prevalence/ or exp Incidence/ or exp sex distribution/ or exp age distribution/ or exp epidemiologic methods/ or exp ethnology/ or exp Statistics/ or exp data collection/ or exp health surveys/ or exp health care surveys/ or exp interviews/ or exp narration/ or exp questionnaires/ or exp records/ or exp registries/ or exp disease notification/ or exp epidemiologic studies/ or exp cohort studies/ or exp longitudinal studies/ or exp follow-up studies/ or exp prospective studies/ or exp cross-sectional studies/ or exp sampling studies/ or exp focus groups/</b>
	Basic epidemiology	(inciden\$ or prevalen\$ or epidemiolog\$) <b>Exp Epidemiology/ or exp prevalence/ or exp Incidence/</b>
	Remission/ Duration	(remission or relapse\$ or recover\$ or "disease course" or "disease duration" or (treatment ADJ) outcome\$) or abstinens\$) <b>(exp REMISSION, SPONTANEOUS/ or exp REMISSION, INDUCTION/ or exp RECURRENCE/ or exp Treatment Outcome/)</b> <i>[Additional terms for heroin searches only]:</i> <b>or exp Heroin Dependence/ or exp Morphine Dependence/</b> <i>[Remission cohort restriction]:</i> <b>exp cohort studies/ or exp longitudinal studies/</b>
	Mortality	Mortal\$ or fatal\$ or death\$ <b>exp DEATH/ or exp "CAUSE OF DEATH"/ or exp SUDDEN DEATH/ or exp Mortality/ or exp Hospitalization/ or exp Fatal Outcome/</b>
	Cohort	"cohort" OR "longitudinal" OR "incidence" OR "prospective" OR "follow-up"

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Database	Search group	Search terms
		<b>exp cohort studies/ or exp longitudinal studies/ or exp follow-up studies/ or exp prospective studies/</b>
	Drug Use	drug abuse\$ OR drug use\$ OR drug misuse\$ OR drug dependenc\$ OR substance abuse\$ OR substance use\$ OR substance misuse\$ OR substance dependenc\$ OR addict\$ <b>Exp Substance-related disorders/</b>
EMBASE#	Cannabis	Cannabis OR cannabin\$ OR marijuana OR bhang OR ganga OR hashish OR hemp or cannabis indica OR cannabis sativa or hemp plant or marihuana <b>Exp cannabis addiction/ or exp cannabis smoking/ or exp cannabis/ or exp cannabis derivative/</b>
	Heroin/Opium	"heroin" or "opioid\$" or "opiate\$" or "opium" <b>exp Diamorphine/ or exp Opiate/ or exp METHADONE TREATMENT/ or exp METHADONE/</b>
	ATS	ATS or amphetamine type stimulant\$ or amphetamine\$ or methamphetamine or deoxyephedrine or desoxyephedrine or Desoxyn or madrine or metamfetamine or methamphetamine hydrochloride or methylamphetamine or n-methylamphetamine or d-amphetamine or dextroamphetamine sulphate or dexamphetamine or dexedrine or dextro-amphetamine sulphate or dextroamphetamine sulphate or d-amphetamine sulphate or stimulant\$ <b>exp CHLORPHENTERMINE/ or exp CHLORAMPHETAMINE/ or exp BENZPHETAMINE/ or exp PHENTERMINE/ or exp MEPHENTERMINE/ or exp HYDROXYAMPHETAMINE/ or exp 4 Methoxyamphetamine/ or exp IOFETAMINE/ or exp IOFETAMINE I 123/ or exp IOFETAMINE I 125/ or exp DEXAMPHETAMINE/ or exp METHAMPHETAMINE/ or AMPHETAMINE DERIVATIVE/ or exp AMPHETAMINE/</b>
	Cocaine	Cocaine <b>exp Cocaine Derivative/ or exp Cocaine/ or exp Cocaine Dependence/</b>
	Benzos	Benzodiazepine\$ OR benzo OR Benzos OR alprazolam OR anthramycin OR benzodiazepinones OR brotizolam OR bromazepam OR camazepam OR chlordiazepoxide OR cinolazepam OR clonazepam OR clorazepate OR clorazepate dipotassium OR clotiazepam OR cloxazolam OR delorazepam OR devazepide OR diazepam OR etizolam OR estazolam OR fludiazepam OR flumazenil OR flunitrazepam OR flurazepam OR halazepam OR haloxazolam OR ketazolam OR loprazolam OR lorazepam OR lormetazepam OR medazepam OR midazolam OR nimetazepam OR nitrazepam OR nordazepam OR oxazolam OR oxazepam OR phenazepam OR pinazepam OR pirenzepine OR prazepam OR quazepam OR temazepam OR tetrazepam OR tofisopam OR triazolam OR Xanax OR Lexomil OR Valium OR Ativan OR Klonopin OR Restoril OR Serax OR Rohypnol OR Halcion OR Librium OR Dalmane OR ProSom OR Mogadon <b>exp benzodiazepine derivative/ or exp 7 amino 1,3 dihydro 5 phenyl 2h 1,4 benzodiazepin 2 one/ or exp 7 aminoflunitrazepam/ or exp "1 (4 aminophenyl) 3,4 dihydro 4 methyl 3 methylcarbamoyl 7,8 methylenedioxy 5h 2,3 benzodiazepine"/ or exp "1 (4 aminophenyl) 4 methyl 7,8 methylenedioxy 5h 2,3 benzodiazepine"/ or exp arfendazam/ or exp benzodiazepine/ or exp benzodiazepin 2 one derivative/ or exp "3 benzyl 7 cyano 2,3,4,5 tetrahydro 1 (1h imidazol 4 ylmethyl) 4 (2 thienylsulfonyl) 1h 1,4 benzodiazepine"/ or exp bromazepam/ or exp "7 bromo 2 carbamoylmethylene 5 (2 fluorophenyl) 1,3 dihydro 1 methyl 2h 1,4 benzodiazepine"/ or exp "4 bromo n (2,3 dihydro 1 methyl 2 oxo 5 phenyl 1h 1,4 benzodiazepin 3 yl)benzamide"/ or exp camazepam/ or exp chlordiazepoxide/ or exp "7 chloro 5 (4 chlorophenyl) 1,3 dihydro 1 (2 isothiocyanoethyl) 2h 1,4 benzodiazepin 2 one"/ or exp 4' chlorodiazepam/ or exp "7 chloro 1,3 dihydro 5 (2 pyrrolyl) 2h 1,4 benzodiazepin 2 one"/ or exp "7 chloro 5 (2 fluorophenyl) 1,3 dihydro 1 (2,2,2 trifluoroethyl) 2h 1,4 benzodiazepin 2 one"/ or exp "[7 chloro 5 (1h pyrrol 2 yl) 3h benzo[e][1,4]diazepin 2 yl]methylamine"/ or exp cinolazepam/ or exp clobazam/ or exp clonazepam/ or exp clorazepate/ or exp clorazepate dipotassium/ or exp clorazepate potassium/ or exp dealkylflurazepam/ or exp delorazepam/ or exp demoxepam/ or exp devazepide/ or exp diazepam/ or exp diazepam derivative/ or exp 1,3 dihydro 5 methyl 2h 1,4 benzodiazepin 2 one/ or exp "1 (2,3 dihydro 1 methyl 2 oxo 5 phenyl 1h 1,4 benzodiazepin 3 yl) 3 (3 methylphenyl)urea"/ or exp "1 [2,3 dihydro 1 (2' methylphenacyl) 2 oxo 5 phenyl 1h 1,4 benzodiazepin 3 yl] 3 (3 methylphenyl)urea"/ or exp "1 [2,3 dihydro 2 oxo 1 pivaloylmethyl 5 (2 pyridyl) 1h 1,4 benzodiazepin 3 yl] 3 [3 (methylamino)phenyl]urea"/ or exp doxefazepam/ or exp ethyl loflazepate/ or exp fludiazepam/ or exp flunitrazepam/ or exp flurazepam/ or exp flutoprazepam/ or exp fosazepam/ or exp gidazepam/ or exp girisopam/ or exp halazepam/ or exp loflazepate/ or exp lorazepam/ or exp lormetazepam/ or exp lotrafiban/ or exp meclonazepam/ or exp medazepam/ or exp metaciazepam/ or exp 3 methylflunitrazepam/ or exp nerisopam/ or exp nimetazepam/ or exp nitrazepam/ or exp n nitrosochlordiazepoxide/ or exp norchlordiazepoxide/ or exp norclobazam/ or</b>

Database	Search group	Search terms
		<b>exp nordazepam/ or exp norfludiazepam/ or exp norflunitrazepam/ or exp oxazepam/ or exp phenazepam/ or exp pinazepam/ or exp prazepam/ or exp quazepam/ or exp "ro 7 0213"/ or exp talampanel/ or exp tampramine/ or exp temazepam/ or exp tetrazepam/ or exp tibezoneium iodide/ or exp tifuldom/ or exp tofisolam/ or exp tomaymycin/ or exp tuclazepam/ or exp uxepam/</b>
	Gold standard Epidemiology	"prevalence" OR "incidence" OR "epidemiolog\$" OR "data collection" OR "Survey" OR "surveillance" OR "screening" OR "population study" OR "population sample" OR "population survey" OR "population surveillance" OR "community sample" OR "RAR" OR "rapid assessment" OR "situation\$ assessment" OR "statistics"
	Basic Epidemiology	<b>exp PREVALENCE/ or exp INCIDENCE/ or exp EPIDEMIOLOGY/ or exp Age Distribution/ or exp Sex Difference/ or exp biostatistics/ or exp health statistics/ or exp epidemiological data/ or exp geographic distribution/ or exp field study/ or exp observational study/ or exp panel study/ or exp pilot study/ or exp preventior study/ or exp trend study/ or exp case finding/ or exp exploratory research/ or exp multimethod study/ or exp naturalistic inquiry/ or exp qualitative research/ or exp quantitative study/ or exp sample size/ or exp secondary analysis/ or exp technique/ or exp triangulation/ or exp "medical record review"/ or exp semi structured interview/ or exp structured interview/ or exp unstructured interview/ or exp observational method/ or exp questionnaire/ or exp open ended questionnaire/ or exp structured questionnaire/ or exp model/</b>
	Remission/ Duration	(inciden\$ or prevalen\$ or epidemiolog\$) <b>Exp Epidemiology/ or exp prevalence/ or exp Incidence/</b>
	Mortality	(remission or relapse\$ or recover\$ or "disease course" or "disease duration" or (treatment ADJ outcome\$) or abstinen\$) <b>(exp REMISSION/ or exp RELAPSE/ or exp DISEASE COURSE/ or exp DISEASE DURATION/ or exp Treatment Outcome/ or exp ABSTINENCE/)</b> [Remission cohort restriction]: <b>exp COHORT ANALYSIS/ or exp LONGITUDINAL STUDY</b>
	Cohort	Mortal\$ or fatal\$ or death\$ <b>exp DEATH/ or exp "CAUSE OF DEATH"/ or exp ACCIDENTAL DEATH/ or exp SUDDEN DEATH/ or exp Fatality/ or exp Mortality/ or exp Hospitalization/</b>
	Drug Use	"cohort" OR "longitudinal" OR "incidence" OR "prospective" OR "follow-up" <b>exp COHORT ANALYSIS/ or exp LONGITUDINAL STUDY/ or exp PROSPECTIVE STUDY/ or exp Follow Up/</b>
	PsychINFO^	Drug abuse OR drug use\$ OR drug misuse OR drug dependenc\$ OR substance abuse OR substance use\$ OR substance misuse OR substance dependenc\$ OR addict\$ <b>exp substance abuse/ or exp drug abuse/ or exp analgesic agent abuse/ or exp drug abuse pattern/ or exp drug misuse/ or exp drug traffic/ or exp multiple drug abuse/ or exp addiction/ or exp drug dependence/ or exp cocaine dependence/ or narcotic dependence/ or exp heroin dependence/ or exp morphine addiction/ or exp opiate addiction/</b>
	Cannabis	Cannabis or cannabin\$ or marijuana or bhang or ganga or hashish or hemp or cannabis indica or cannabis sativa or hemp plant or marihuana <b>exp CANNABIS/ or exp MARIJUANA USAGE/ or exp MARIJUANA/</b>
	Heroin/Opium	"heroin" or "opium" or "opiate\$" or "methadone" <b>exp Opiates/ or exp METHADONE/ or exp HEROIN ADDICTION/ or exp HEROIN</b>
	ATS	ATS or amphetamine type stimulant\$ or amphetamine\$ or methamphetamine or deoxyephedrine or desoxyephedrine or Desoxyn or madrine or metamfetamine or methamphetamine hydrochloride or methylamphetamine or n-methylamphetamine or d-amphetamine or dextroamphetamine sulphate or dexamphetamine or dexedrine or dextro-amphetamine sulphate or dextroamphetamine sulphate or d-amphetamine sulphate or stimulant\$ <b>exp DEXAMPHETAMINE/ or exp METHAMPHETAMINE/ or AMPHETAMINE DERIVATIVE/ or exp AMPHETAMINE/</b>
	Cocaine	Cocaine <b>exp Cocaine/ or exp Crack Cocaine/</b>
	Benzos	Benzodiazepine\$ OR benzo OR Benzos OR alprazolam OR anthramycin OR benzodiazepinones OR brotizolam OR bromazepam OR camazepam OR chlordiazepoxide OR cinolazepam OR clonazepam OR clorazepate OR clorazepate dipotassium OR clotiazepam OR cloxazolam OR delorazepam OR devazepide OR diazepam OR etizolam OR estazolam OR fludiazepam OR flumazenil OR flunitrazepam OR flurazepam OR halazepam OR haloxazolam OR ketazolam OR loprazolam OR lorazepam OR lormetazepam OR medazepam OR midazolam OR nimetazepam OR nitrazepam OR nordazepam OR oxazolam OR oxazepam OR phenazepam OR pinazepam OR pirenzepine OR prazepam OR quazepam OR temazepam OR tetrazepam OR tofisolam OR triazolam OR Xanax OR Lexomil OR Valium OR Ativan OR Klonopin OR Restoril OR Serax OR

Database	Search group	Search terms
		Rohypnol OR Halcion OR Librium OR Dalmane OR ProSom OR Mogadon <b>exp BENZODIAZEPINES/ or exp chlordiazepoxide/ or exp clonazepam/ or exp diazepam/ or exp flunitrazepam/ or exp flurazepam/ or exp lorazepam/ or exp nitrazepam/ or exp oxazepam/</b>
	Gold standard epidemiology	"prevalence" OR "incidence" OR "epidemiolog\$" OR "data collection" OR "Survey" OR "surveillance" OR "screening" OR "population study" OR "population sample" OR "population survey" OR "population surveillance" OR "community sample" OR "RAR" OR "rapid assessment" OR "situation\$ assessment" OR "statistics" <b>Exp epidemiology/ or exp STATISTICS/ or exp "POPULATION (STATISTICS)"/ or exp disease course/ or exp statistical analysis/</b>
	Basic epidemiology	Prevalen\$ or inciden\$ or epidemiolog\$ <b>Exp epidemiology/</b>
	Remission/ Duration	(remission or relapse\$ or recover\$ or "disease course" or "disease duration" or (treatment ADJ outcome\$) or abstin\$) <b>(exp "REMISSION (DISORDERS)"/ or exp "RELAPSE (DISORDERS)"/ or exp "RECOVERY (DISORDERS)"/ or exp DISEASE COURSE/ or exp TREATMENT OUTCOMES/ or exp Drug Rehabilitation/ or exp DRUG ABSTINENCE/)</b> [Remission cohort restriction]: cohort OR longitudinal OR prospective OR follow-up <b>or exp cohort analysis/</b>
	Mortality	Mortal\$ or fatal\$ or death\$ <b>exp "DEATH AND DYING"/ or exp Mortality/ or exp Hospitalization</b>
	Cohort	"cohort" OR "longitudinal" OR "incidence" OR "prospective" OR "follow-up" <b>Exp age differences/ or exp cohort analysis/ or exp human sex differences</b>
	Drug Use	Drug abuse OR drug use\$ OR drug misuse OR drug dependenc\$ OR substance abuse OR substance use\$ OR substance misuse OR substance dependenc\$ OR addict\$ <b>Exp drug abuse/ or exp drug addiction/ or exp addiction/ or exp drug usage</b>

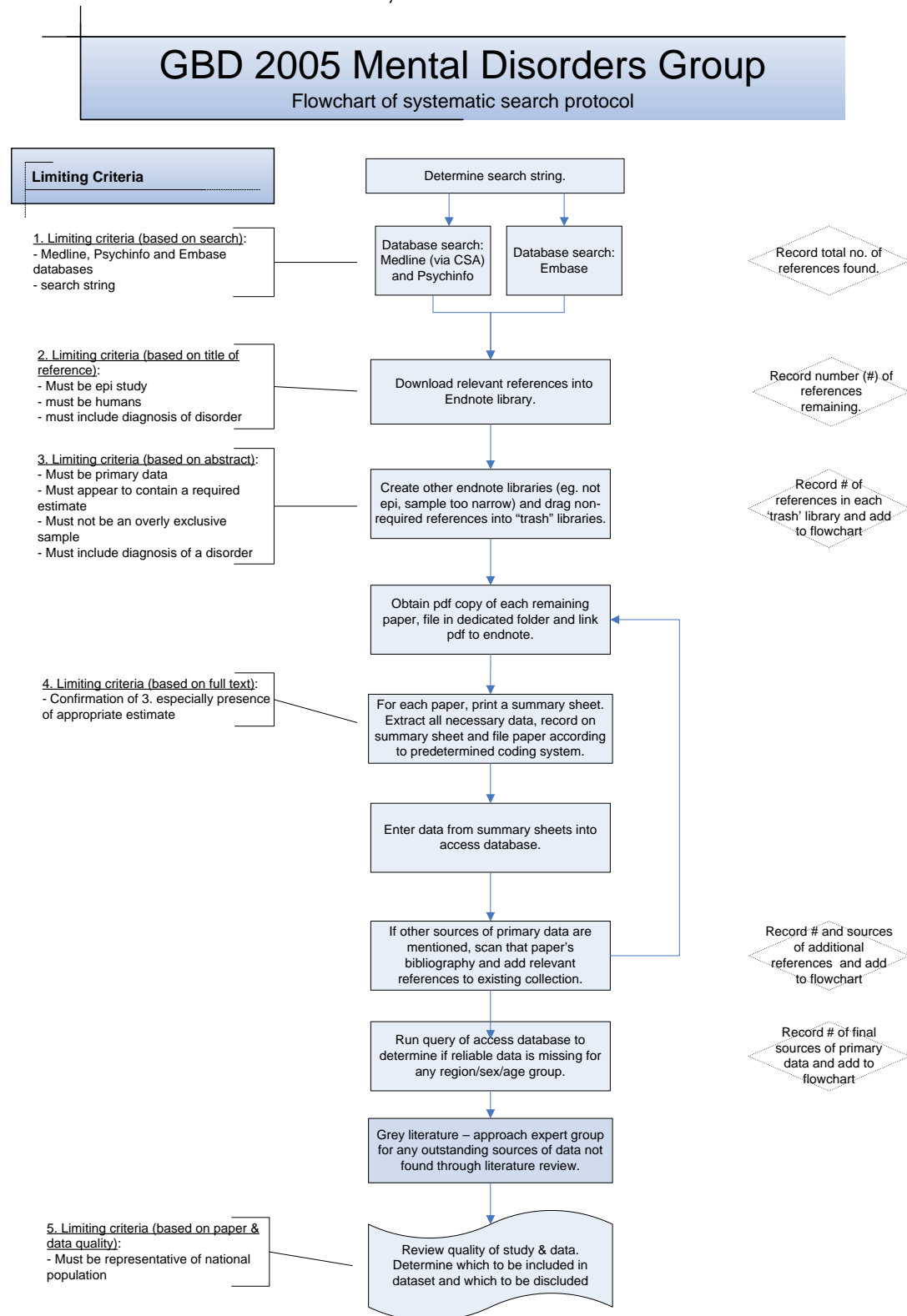
\* 'key-words' in lowercase, 'MeSH' terms in **bold**

# 'key-words' in lowercase, 'EMTREE' terms in **bold**

^ 'key words' in lowercase, explode terms in **bold**

## Appendix F

### Mental Disorders – Protocol for systematic search



## Appendix G

### Illicit Drugs – Protocol for systematic search

#### GBD2005 Illicit Drugs Group Flowchart of systematic search protocol

