Annex 1: Responses to Cocaine DRDs Mini-survey

TEXT OF QUESTIONNAIRE

Dear national DRD expert/colleague,

As you will be aware from the presentation and parallel session at the DRD expert meeting held at the EMCDDA in November, we are going to conduct research on cocaine-related deaths in Europe. Before we proceed to the main request for data and information, it would be helpful to us in drawing up the specific data requests and planning analysis, if you could kindly respond to the following few questions.

Q1 What method(s) are/could be used in your country/Special (Mortality) Register to identify cocaine-related deaths?

Q2 What information is used to identify relevant cases?

Q3 Are cocaine-related deaths classified in any way in your country/Special (Mortality) Register? Yes/No/Could be done

Q4 If Yes/Could be done, what categories are/could be used and what criteria are used?

Q5 Are poisonings distinguished from other types of deaths, e.g. somatic?

Q6 Which cocaine metabolites are normally screened for in your country/Special (Mortality) Register/Institute? [Examples might include: cocaine; benzoylecgonine; ecgonine; ecgonine methyl ester; norcaine; p-hydroxycocaine; m-hydroxycocaine; p-hydroxybenzoylecgonine (pOHBE); m-hydroxybenzoylecgonine; and cocaethylene]

Q7 Would you be able to provide information on drug combinations (other substances identified)?

Q8 Is 'crack' distinguished from powder cocaine in your Special (Mortality) Register/Institute?

Q9 Is the mode of use/route of administration of drugs known/recorded in your Special (Mortality) Register/Institute?

Q10 If requested, would your country/Special (Mortality) Register/Institution be able to provide (anonymised) datasets on individual cases? Note that we do not plan to request this at first as part of this contract. Nonetheless, if some experts are interested to participate in a multisite analysis, and are in a position to provide disaggregated data, we could explore, e.g. age, gender, toxicology, causes of deaths to draw up a clearer descriptive epidemiology of the most recent cocaine-related deaths in Europe.

A number of countries/national experts have already expressed interest in taking part in this research. Please indicate if you are interested or not at this stage. Please let me know if you think I have left someone out.

Many thanks for your assistance in this stage of the research.

Kind regards,

John M. Corkery UK FP DRD expert, project contractor

RESPONSES TO COCAINE DRDS MINI-SURVEY

Summaries of responses

Participation

So far, 19/30 (63 %) countries have responded.

The following agreed to take part without foreseeing any issues: UK; Netherlands; Cyprus; Italy; Ireland; Spain; Portugal; France; Austria; Czech Republic; Romania; Slovenia; Hungary; Malta.

The following also agreed but thought there may be problems: Bulgaria (SMR only has data from Sofia); Luxembourg (no cocaine deaths); Croatia (limited dataset); Finland (limited data); Denmark (going through reorganisation which may last several months); Sweden (unable to get responses from data suppliers).

Q1 and Q2: Methods used to identify cocaine DRDs

Country	GMR						SMR					
	Cause of death	Cohort study	Verdict	Toxicology	Evidence	PM	Cause of death	Cohort study	Verdict	Toxicology	Evidence	PM
UK	X		X				X		X	X	X	X
NL				X	X					X		
CY				X	#							
IT											X	X
IE							X		X	X	X	X
ES	X						#			X	#	X
PT	X			X								
FR				X	#							
AT										X		#
LU	X											
HR	X			X		X						
FI										X		X
CZ				X		X						
RO										X	X	X
SI	X							X				
BG	X									X-	X-	#
HU							X			X		
MT				X								
DK							X-			X		

X= Methods and Information; # = Information only; X- = Methods only

For GMRs, it is mostly the (underlying) cause of death mentioned on the death certificate and toxicology which are used to identify cocaine-related DRDs. SMRs use a wider range of factors, the most important toxicology, PM (autopsy) and evidence.

There appears to have been some misunderstanding of what was requested in Q1 and Q2, thereby leading to reduced /limited information for Q1 and considerable overlap in the responses for the two questions. It appears that respondents confused 'information' with 'methods'; whereas what was intended was a distinction between information derived from particular approaches (methods) and the approaches themselves. Thus, for GMRs, the cause of death and toxicology are the main types of information used to identify relevant cases, whereas for SMRs, the principal information sources are toxicology, PM, evidence and cause of death.

Q3: Classification of cocaine DRDs

Country	GMR			SMR		
	Yes	No	Could do	Yes	No	Could do
UK	Sole vs any					X
NL		X				
CY			X			
IT				X		
IE				Poisoning vs non-poisoning		
ES	X					
PT			X			
FR	X					
AT				X		
LU	X					
HR		X				
FI						X
CZ	X					
RO					X	
SI			X			
BG		X?				X?
HU				X Poisonings and indirect deaths		
MT		X				
DK				X based on toxicology		

Four out of five GMRs stated they classified cocaine DRDs but did not state how, a further three said it could be done. Similarly with SMRs, two out of four said they did classify such deaths but did not say how, and another three could carry out a classification exercise.

Q4: If yes, could do — categories and criteria used

Country	GMR		SMR	
	Categories	Criteria	Categories	Criteria
UK	Single vs. any	Cause of death	Any	Any
NL	Primary, secondary	Direct, indirect (cause)		
CY	Any	Any		
IT			Any	Any
IE			Poisoning vs. non-poisoning	Cause of death
ES			Type of cocaine and mode of use	Toxicology & evidence
PT	Only OD at present, manner of death would be interesting			
FR	Cocaine use as main cause of death	Cause of death		
AT			DRD Standard 3.0	Toxicology
LU	ICD codes			
HR	-	-	-	-
FI			Any	Any
CZ	ICD codes			
RO	-	-	-	-
SI	ICD codes		Any (cohort)	
BG	-	-	-	-
HU			Any	
MT	ICD codes	Cause of death		
DK			Cocaine alone and cocaine with heroin (both in deadly concentrations)	-

For GMRs, 3/8 use ICD codes as the basis for categorising cocaine deaths, with 3 others appearing to be based on ICD coding; the criteria principally used relate to causality — probably based on cause of death.

For SMRs there is more flexibility with 4/8 stating they could adopt any categorisation scheme; for the other three there were several different ways of categorisation, again based primarily on toxicology or cause of death.

Q5: Poisonings distinguished from other types of death related to cocaine

Country	GMR			SMR		
	Yes	No	Could do	Yes	No	Could do
UK	X					X
NL	X					
CY	X					
IT					X	
IE				X		
ES		X				
PT	X					
FR	X					
AT				X		
LU	X					
HR		X				
FI				X		
CZ	X					
RO				X		
SI	X			X (cohort)		
BG	-	-	-	-	-	-
HU	X					
MT						X?
DK				X		

The majority of GMRs and SMRs distinguish cocaine poisonings from other types of deaths.

Q6: Cocaine metabolites identified

Country	Cocaine	Benzoylecgonine	Ecgonine	Ecgonine methyl ester	Norcaine (Benzovcaine)	Hydroxycocaine	P-hydroxycocaine	M-hydroxycocaine	p-hydrobenzoylecgonine (POHBE)	M-hydroxybenzoylecgonine	Cocaethylene (ethyl benzoylecgonone	Methylecgonine	Ethylecgonine	Norcocaine	Methylecgonidine (anhydroecgonine methyl ester)
UK	X	X	X	X							X	X	X		
NL	X	X				X					X	X		X	
CY	X	X	X	X											
IT	X	X	X	X	X						X				
IE	?	X		X							X			X	X
ES	?	X	X	X		X					X			X	
PT	X	X		X							X				
FR	X														
AT	X	X													
LU	X	X		X							X				
HR															
FI	X	X		X							X				
CZ	X	X	X	X	X		X	X	X	X	X				
RO	X	X	X		X			X	X						
SI							X								
BG	-	-	-	-	-	-	-	-			-	-	-	-	-
HU	X	X													
MT	X?	-	-	-	-	-	-	-		-	-	-	-	-	-
DK	X?	X													

Apart from cocaine itself, the principal metabolites commonly identified or screened for are: benzoylecgonine, ecgonine methyl ester, cocaethylene and ecgonine. This limited list of substances appears sufficient to identify the presence of cocaine. More expensive, sophisticated analytical approaches would be able to distinguish additional metabolites, including those which may help identify cases where crack was smoked. These findings suggest that the registries covered by this Mini-survey are identifying relevant cocaine cases through the use of toxicology.

Q7: Provision of drug combinations associated with cocaine

Country	GMR			SMR		
	Yes	No	Comment	Yes	No	Comment
UK		X		X		
NL	X		From recent pilot			
CY	X					
IT				X		If toxicology available
IE				X		
ES	X		Heroin and cocaine			
PT	X					
FR				X		
AT				X		Requires extra work
LU	X					
HR						
FI				X		
CZ	X					
RO				X		
SI	X					
BG	-	-	-	-	-	-
HU	X					
MT				X?		
DK				X		

The overwhelming majority of GMRs and all SMRs can provide breakdowns by type of drug combinations, and thereby better inform on polysubstance use.

Q8: 'Crack' distinguished from powder cocaine

Country	GMR			SMR		
	Yes	No	Comment	Yes	No	Comment
UK		X		X		If details given
NL		X				?
CY		X	Maybe mentions			
IT				X		
IE				X		
ES	X					
PT		X				
FR				X		
AT					X	No cases
LU		X		X		
HR			Maybe			
FI				X		If details given
CZ		X				
RO					X	
SI		X				
BG	-	-	-	-	-	-
HU				X		In theory
MT	-	-	-			
DK					X	

Most GMRs do not distinguish crack from powder cocaine, but 7/10 SMRs could provide some information — but this is probably not systematically provided. Any information on the proportion of cocaine-related cases due to crack provided from such sources would have to be regarded as minimum levels rather than as absolute measures.

Q9: Mode of use/route of administration known/recorded

Country	GMR			SMR		
	Yes	No	Comment	Yes	No	Comment
UK		X		X		
NL		X				
CY	X					
IT					X	
IE				X		
ES		X	Injection marks			
PT	X					
FR		X			X	
AT					X	Injection marks
LU		X		X		Possible
HR		X				
FI					X	May be present
CZ	X					
RO				X		
SI		X				
BG	-	-	-	-	-	-
HU					X	Injection marks
MT	-	-	-			
DK					X	Injection marks

In the majority of GMRs, the mode of use or route of administration of cocaine (e.g. inhalation, smoking, snorting, injecting) is not known/recorded. Half of SMRs do record such information (but this is dependent on the quality of data submitted); four other SMRs may have information such as presence of injection marks.

Q10: Provision of (anonymised) datasets on individual cases

Country	GMR			SMR		
	Yes	No	Comment	Yes	No	Comment
UK		X		X		Contractor has access, permission needed
NL			Could be discussed			
CY	X					
IT				X		Separate information flows
IE				X		Need Memorandum of Understanding
ES			Could do some analysis			
PT	X					
FR					X	
AT				X		Depending on work involved
LU		X	No deaths			
HR	X					
FI				X		Would need discussion
CZ	X		Would need agreement			
RO				X		Few deaths
SI	X		Restricted variables to preserve anonymity			
BG	-	-	-	-	-	-
HU				X		
MT	-	-	-			
DK				Yes		But reorganisation could affect delivery

Although most countries/institutions can theoretically provide such datasets, given the length of time it might require to seek and obtain relevant authorisations, this activity could form part of a supplementary study perhaps.

Implication(s) of responses to proposed main survey

There was a good and encouraging response in terms of countries, GMRs and SMRs.

1. Post-mortem toxicology 'mentions' in overdoses

The responses to Q7 suggest that we should be able to get information on drug combinations (see Table A in draft protocol) from most, if not all, countries. For this reason, we could also split the table for trends into sole and any mention (Table C). We also should be able to obtain breakdowns by age and gender (see Tables B1-3), as per ST5 which is used as the standard by several countries. When we send the protocol out, we can append the tables as Excel spreadsheets.

2. Deaths related to cocaine, other than overdoses

Some respondents use ICD codes to define cocaine-related deaths, primarily to identify poisoning fatalities. There are very few classifications being used by respondents to categorise cocaine deaths (or indeed any deaths) other than ones based poisoning, overdose, or 'direct' (see responses to Q3 and Q5). Because of this lack of consistency, I propose that the categories suggested in the draft protocol be retained. It is based on published papers. Several respondents said that they could categorise deaths in any way requested (see Q4 responses), and we have provided ICD codes for those who use them.

3. Core dataset

The core datasets are likely to be those suggested in the draft protocol. However, there could be two options for the drug combination breakdowns: a very full one as set out in the protocol or a simpler version based on the outline in the draft questionnaire.

4. Optional extra: distinguishing between cocaine powder and 'crack'

Several registries try and capture this information (see Q* responses). It would be interesting to see if we could try and establish a 'minimum' level/proportion for such cases in those registries that can and wish to do it. It should remain as an 'optional extra'.

5. Suggested requirement for individual case data

There was a consensus at the Expert Meeting that individual case data should not be requested at this stage, but potential study participants should be asked if they could supply data if approached to do so. The responses to the Mini-survey (Q10) suggest that many could do so, but that formal agreements, Memoranda of Understanding, etc. would have to be arranged. This could take time and delay the study, but it holds out promise for a future, more in-depth study.

Appendix 1: detailed responses to the Mini-survey by question

Participation	A number of countries/national experts have already expressed interest in taking part in this research. Please indicate if you are interested or not at this stage.
Country/expert/institution	Response
UK/JC/np-SAD	Yes, using SMR data primarily (and published GMR data where available for trend data)
Bulgaria/Sonia Chipeva	The planned research on cocaine-related deaths in Europe is very interesting and the Bulgarian Focal Point should join gladly in it. We highly appreciate the possibility to take part in the research. Unfortunately, there are two considerable reasons that make our inclusion difficult. First, one concerns the way of coding the cause of death. The General Mortality Register in the country, that is the National Statistical Institute, keeps on using 3-digits codes to identify the cause of death. Thus, in case of poisoning, we cannot get information about the substance that caused the death. Such information we can get only by a Special Register — the forensic medicine. But for now, the Special Register gives us information from autopsies in an only region — Sofia (city and district). The second reason that makes us not join the research for the time being is the lack of cocaine-related deaths in the country. There are no reported cocaine-related deaths for the last 5 years by GMR, as well as forensic medicine. Concerning the above, I think that we could not contribute a lot to this stage of the research. It will be a pleasure for us if we could be useful in the next stages.
Netherlands/Guus Cruts & Klaas Lusthof	Yes
Cyprus/Byron Gaist	As the Cyprus NFP, we remain interested in participating in this research. I've tried to answer them below quite spontaneously at this stage, but let me know if further info is needed, particularly if you do need to know more about Q6. JC requested them to do so on 24/3/12. As you know, Cyprus has a small population and about 10 direct DRDs per year, so we will be happy to provide any data we have, but the number of cocaine DRD cases from us is respectively quite low.
Italy/Teodora Macchia	I'm very interested in this research if our currently available dataset is suitable enough for it.
Ireland/Ena Lynn	Delighted to see the study is going ahead, yes we are interested in taking part. I hope I have answered your questions sufficiently below, if you require any further information, please do not hesitate to contact me.
Spain/Elena Alvarez	The Spanish Observatory on Drugs confirm, as expressed at the DRD expert meeting held at the EMCDDA in November, his interest in taking part in this research.
Portugal/Mário Dias	Yes
France/Eric Janssen	Yes, I'm sorry for answering late, I got in touch with people from the Special Registry and was expecting their answer (for Q6 mainly) but have received nothing back so far.
Austria/Charlotte Wirl	Yes
Luxembourg/Michel Yegles	No — cocaine deaths
Croatia/ Tanja Coric	Yes. We received your invitation for taking part in research about cocaine-related death in Europe. In the last ten years from 2001 to 2010, Croatia had only 12 cocaine-related deaths. For identifying cocaine-related deaths, we use information from death

	certification (some of them already has toxicology results), consultation with a doctor who performed the autopsy and toxicological laboratories. At this moment, we are able to access the results of toxicological analysis but the results are not collected at the national level. Additional data for cocaine-related deaths could be provided only for persons who had been treated for drug addiction before (route of administration, etc.). We think that our cocaine-related death dataset will not contain all necessary variables for the proposed research but if you are still interested, we could deliver the dataset we have.
Finland/ Ilkka Ojanperä	Yes. I am sorry this answer comes so late. We have only a couple of cocaine findings annually in Finland, and in these cases, cocaine seldom is the most important toxicological finding. However, the data is solid.
Czech Republic/ Lucie Grolmusova & Viktor Mravčík	Yes. And I have to say at first, that in the Czech Republic is not a problem with cocaine and cocaine-related deaths so large.
Romania/ Gabriel Gorun	Yes. I am sorry for this late answer, but some problems with servers have blocked e-mails for a couple of weeks.
Slovenia/ Jozica Selb	Yes. Thank you for the reminder. I am sorry that I had not answered to you earlier, in spite I had a good intention to do so. Attached, I am sending you the answers prepared by Mrs Metka Zaletel, Head of Health Statistic Center at NIPH and me. As you will see, we can provide mortality data on cohorts of treated cocaine users and direct DRD on cocaine, the data from SR might be possible to use only from 2014 on. Wish you a successful work.
Hungary/ Gergely Horváth	The Hungarian Special Mortality Register is able to identify cocaine related cases. It is fully in line with the EMCDDA guidelines — nothing less or more — so you are familiar with the system. I added the answers below. Should you have further questions, just let me know.
Malta/ Roberto Debono	Given the very small number of cocaine-related deaths we have in Malta, I regret it is difficult to give suggestions on how best it is to identify such deaths. Having said that, we keep drug-related deaths together with the other deaths in one register. There is no special register. Most cocaine-related deaths are identified after toxicological analysis of body fluids. Furthermore, poisonings are distinguished from other deaths and classified using ICD-10 coding, as is done for all deaths. I hope this helps. Let me know if I can be of further help and good luck with the work.
Denmark/ Claudia **Ranneries**	Yes, but see Q10

Q1	What method(s) are/could be used in your country/Special Register to identify cocaine-related deaths?
Country/expert/institution	Response
UK	GMRs — text search of cause of death fields on death certificate; np-SAD — text search of cause of death fields, coroner's verdict and/or PM toxicology (including levels).
Netherlands	DRD are registered by our National Statistics Institute (=CBS, in English: http://www.cbs.nl/en-GB/menu/home/default.htm?Languageswitch=on), categorisation is generally done by means of circumstantial evidence or

	maybe by the results of rapid drug testing on the spot. Autopsy with toxicological analysis is performed only at our institute (The Netherlands' Forensic Institute) in a limited number of cases (see below). Cases investigated by our institute (=NFI, The Netherlands' Forensic Institute) are not always covered by the CBS (vice-versa) and do not always match with respect to the toxic agent.
Cyprus	All unnatural deaths are recorded by the Cyprus NFP via the work of a multidisciplinary team. Cocaine-related deaths are identified by the same procedure as these other unnatural deaths, i.e. via toxicological analysis.
Italy	In Italy SR (held by the Ministry of the Interior-Central Directorate for Anti Drug Services), at national coverage, records cases linked up only to direct examination, circumstances, marks, details that are ascribed to overdoses and on an evidential basis. No toxicological data are available on SR. Nowadays, there is not a national Forensic Toxicology Register, data (related to post-mortem control) on cocaine-induced deaths are available from individual FT only on demand.
Ireland	We have three methods of collection these deaths; 1. A death due to poisoning where cocaine on its own or in combination with another substance(s) directly caused the death 2. A death among a cocaine user where cocaine was not directly implicated in the cause of death 3. A death among a cocaine user, which was not due to poisoning, but the coroner cited cocaine use on the coroner's certificate.
Spain	Is Spain, at present, a special mortality register is used to identify cocaine-related deaths. Furthermore the general registry of mortality is exploited to complete this information. ▪ **Spanish special register of mortality:** Description: The purpose of this register is collecting information on deaths with judicial intervention in which the main, direct cause of the death is an acute adverse reaction following the non-medical or intentional use of psychoactive substances (except alcohol and tobacco). Coverage: The population coverage at the geographic level has been progressively increasing. In 2009, 14 of the 19 extant Autonomous Communities in Spain reported date, which would correspond to approximately somewhat over half of Spain's population. The characteristics of the population of these Autonomous Communities can be considered representative of all of Spain. This indicator began functioning systematically in 1990, although partial information is available as of 1983. Information collection mechanism: The primary source of information comes from the Forensic Anatomical Institute of Madrid, Coroners, National Toxicology Institute and University Legal Medicine Departments which report this data to their Autonomous Communities (Spain has 19 regions), which forward the same to the database of the Spanish Observatory on Drugs of the Government Delegation for the National Plan on Drugs. This is currently being done in the form of hard-copy information sheets, but, in short, will be done by way of a web specially-designed for this purpose. ▪ **General register of mortality:** In Spain, the National Institute of Statistics (INE) (http://www.ine.es/) has a

	general mortality register with the causes of death classified according to the ICD-10. The mortality databases are processed in collaboration with the Autonomous Communities. The main source of information is the Civil Registries which send the death reports to the National Institute of Statistics monthly. The latest mortality database available at the nationwide level is that of 2009. In general, codes selected for mortality analysis are ICD-10:F11-F12, F14-F16, F19, X42, X44, X62 and Y12. In Spain, most of the deaths attributable to drugs are codified as X42 or X44, for this reason the general register of mortality doesn't add to much information for death related to specific drugs (cocaine in this context).
Portugal	Toxicology analysis to prospect drugs is requested in all victims of violent deaths up to 50 years old, as well as in all victims of sudden deaths.
France	Toxicological/hair/blood analysis
Austria	Cocaine cases can be identified in the SR, because also substances are listed in the SR.
Luxembourg	In the framework of monitoring DRD, the Ministry of Health has developed software which allows to extract DRD cases (standard DRD v-3.0 of OEDT). These data are provided annually to the OEDT.
Croatia	For identifying cocaine-related deaths, we use information from death certification (some of them already has toxicology results), consultation with a doctor who performed autopsy and toxicological laboratories. At this moment, we are able to access the results of toxicological analysis but the results are not collected at the national level.
Finland	The Special Register on DRD is maintained by Hjelt Institute, University of Helsinki, and it includes all post-mortem cocaine findings and other information. I am entitled to use the Register.
Czech Republic	Autopsy and systematic toxicology analysis
Romania	All causes of death that are under police/prosecutor investigation, according to national law, are declared automatically 'medico-legal cases', and in all these cases, a full autopsy is performed. The SR is in custody of the forensic medical system and the conclusions of each case become the selection criteria. All forensic cases systemise the results of police investigation, autopsy and toxicological analyses, and if the presence of cocaine is signalled in these data, the cases are concluded according to forensic results.
Slovenia	Special register might be possible from 2014 on. Today, the cohort study provides data on cocaine and General Mortality Register (GMR).
Hungary	Detailed results of toxicological analyses and ICD 10 codes.
Malta	Toxicology
Denmark	Special registers

Q2	What information is used to identify relevant cases?
Country/expert/institution	Response
UK	See Q1
Netherlands	Autopsy with toxicological analysis is performed only if there is a suspect or a possible suspect in the case (criminal law).
Cyprus	The information is mostly that from toxicology (National Toxicological Laboratory), plus police and forensic reports.
Italy	Residence, gender, age, nationality, working activity, substance (on evidential basis), place of death, and more.
Ireland	Our main source of data is coronial files, we manually go through all coronial files and identify cases where there is a recorded history of

	cocaine use, and/or a positive toxicology for cocaine and/or the coroner has implicated cocaine in the cause of death and/or mentions cocaine use on the coroner's certificate. We also receive data from the Central Statistics Office and the Hospital In-Patient Enquiry Scheme (HIPE) which is a computer-based system designed to collect demographic, clinical and administrative data on discharges and deaths from acute hospitals across the Republic of Ireland. We receive and electronic download of relevant data from these two sources using relevant ICD codes. For example, the ICD codes we use in relation to cocaine include: F14.0-9, T40.9
Spain	For us, it is not clear enough what 'relevant cases' means in this context, however, we describe how we select the cases included in our data set. A detailed protocol is available, setting out a description of the variables to be included, how to do so and the criteria for inclusion and exclusion. The notification form is available in our web site (http://www.pnsd.msc.es) in the link http://www.pnsd.msc.es/Categoria2/observa/pdf/morta.pdf The most important aspects thereof are summarised below: ▪ **Variables:** The information collection sheet consists of 26 variables, some of which have several sections. The information collected includes: - Enrolment information (Coroner's report or autopsy number, toxicological report number, number of prior formalities, institution collecting the information, number of the court processing the case, the court's province and city/town). - Socio-demographic information (gender, date of birth, province and city/town of birth, nationality, province and city/town where residing, marital status, date of death, province and city/town of death). - Information on the corpse and the drugs (corpse received from, clinical criteria and signs of the autopsy compatible with acute reaction due to drug use, coroner's diagnosis of cause of death, evidence of suicide, signs of vein puncture and anti-HIV antibodies). ▪ **Criteria for inclusion:** The case is selected and is included in the register if it fulfills any of the following four criteria for inclusion: 1. Evidence of recent use of psychoactive drugs. This evidence may be of various types: - Clinical evidence of acute intoxication by psychoactive substances immediately prior to death which is recorded on some document (hospital report, medical record, etc.). - External physical signs of recent administration of psychoactive drugs (recent vein punctures, present of traces of psychoactive substance in mouth, nasal passages, stomach …, hair on head, breath or odour of solvent on clothing, etc.). - Presence of psychoactive substances or utensils for using the same at the place of death (syringe or other injecting utensils, tin foil, pipe, empty pill bottles, glue cans or spray cans, lighter fluid refills, plastic bags for inhaling, etc.). - Recent use (7 days immediately prior to death) reported by family members or detected by the coroner in a forensic medical examination or assistance concerning the person now deceased. 2. Presence of toxicological analysis testing positive for some

	substance subject to registry. 3. Anatomopathological findings of autopsy compatible with death due to recent use of some psychoactive substance. 4. Existence of a forensic diagnosis of death due to acute reaction to some psychoactive substance. ▪ **Criteria for exclusion:** According to the definition initially set forth, the following types of deaths are excluded: 1. Deaths in which there is no judicial intervention or forensic study as to the causes with a written record of the findings. However, toxicological analyses not being conducted is not a reason for exclusion, although the availability of the results of these analyses is highly recommended. 2. Deaths not related to the use of psychoactive substances. However, the deaths caused due to disorders which may have been worsened or complicated by the recent use of psychoactive substances are not excluded, provided that they fulfill the criteria for inclusion. 3. Deaths indirectly related to the use of psychoactive substances subject to registry. In other words, those deaths in which the use of a psychoactive drug has been a contributing factor yet not the main or fundamental cause of death. Hence, the deaths for the following causes are not included: - Infectious diseases acquired presumably as a result of the use of drugs (AIDS, endocarditis, hepatitis, septicaemia, tetanus, etc.). - Homicides of any type, although the deceased were to be under the influence of psychoactive substances, the homicides were to have occurred in the course of activities related to drug trafficking or drug use or the person having committed the homicide were to have employed psychoactive substances to cause the death. - Accidents of any type (occupational, household, traffic accidents, etc.) in persons under the effects of psychoactive substances, with the exception of the deaths caused directly by poisoning or acute intoxication with these substances. - Suicides (hanging, jumping to one's death, drowning, shooting, etc.) in persons under the effects of psychoactive substances. On the other hand, those deaths caused directly by poisoning or acute intoxication which are self-inflicted with psychoactive substances are included. (Would these be overdoses?) Yes. - Deaths due to involuntary or unintentional exposure or ingestion of psychoactive substances. - Deaths due to adverse reactions to psychoactive pharmaceutical products or medicines correctly prescribed and administered. Deaths due to an acute reaction to psychoactive substance in persons in a methadone maintenance programme are included unless it can be proven that all of the psychoactive drugs taken by the deceased have been correctly prescribed and administered. - Deaths due to a chronic disease related to alcohol and deaths due to exclusively an acute alcohol poisoning (drunkenness).
Portugal	Information is irrelevant if up to 50 years-old, once toxicology analysis would be always requested, as stated above; if over 50 years-old, information about consumption is relevant.
France	Police records including interviews with witnesses; field retrieved evidences.
Austria	Information from the autopsy reports including toxicological information is used.

Luxembourg	Codes used were ICD-10: > F14.3- 9, F14.1-3, X42 + T40.5, ** X62 + T40.5 **, Y12 + T40.5 for DRD related to cocaine. The register of the deaths is brought up to date on the basis of death certificates drawn up on the basis of conclusion of autopsies. Regarding the 2005–10 data, no cases could be identified in the register of the deaths.
Croatia	See Q1
Finland	The Register can be searched in various ways, e.g. by compound name.
Czech Republic	Toxicology and autopsy results
Romania	The information on which the case selection is based come from police investigations, forensic reports and toxicological analyses
Slovenia	Death certificate, Data on treatment of cocaine users (a main drug, second or third drug at entering into treatment.)
Hungary	Detailed results of toxicological analyses and ICD-10 codes.
Malta	Toxicology
Denmark	You have to have permission to enter the relevant register.

Q3	Are cocaine-related deaths classified in any way in your country/Special Register? Yes/No/Could be done
Country/expert/institution	Response
UK	Yes, based on above in Q1, sole vs. combination with other implicated drugs
Netherlands	This is a question for our National Statistics Institute; they use ICD-10 categorisation. At our institute (The Netherlands' Forensic Institute), we have a limited number of cases (450 autopsies/year for 17 million inhabitants); we don't categorise and do not publish yearly reports.
Cyprus	Could be done. Currently, we are not classifying cocaine deaths in a special way, they are just identified via the toxicology results.
Italy	Yes
Ireland	Yes — we classify deaths into deaths due to poisoning and non-poisoning deaths.
Spain	Yes
Portugal	No, but it could be done.
France	Yes
Austria	Cocaine-related deaths are classified in the SR and can be counted by looking at the number of deaths, were cocaine was involved
Luxembourg	See Q2
Croatia	N/K
Finland	Could be done
Czech Republic	Yes
Romania	No — just according to ICD-10 classification at the level of Public Health Department
Slovenia	Could be done
Hungary	Yes. Metabolites are enlisted individually. We distinguish poisonings and indirect deaths.
Malta	Could be done?
Denmark	Yes, in our special register based on forensic toxicology

Q4	If Yes/Could be done, what categories are/could be used and what criteria are used?
Country/expert/institution	Response
UK	Any, as required using above fields (and additional information) for

	identifying
Netherlands	-We did a pilot study on DRD; in the pilot, we took the cause of death from the conclusion of the pathologist, who always incorporates the conclusion of the forensic toxicologist in the final conclusion. We distinguished primary and secondary DRD (i.e. direct toxic effects of a compound versus effects leading to death secondarily, e.g. drowning after falling drunk into the water). However, car accidents after DUI are not always investigated toxicologically, although they can be seen as secondary DRD.
Cyprus	This may be best discussed with you, if your research requires us to code these deaths in some way!
Italy	See Q1
Ireland	We classify deaths into deaths due to poisoning and non-poisoning deaths. Poisoning deaths are where the drug(s) are directly implicated in the cause of death, i.e. cocaine toxicity. Non-poisoning deaths are deaths among drug users where the drug is not directly implicated in the cause of death, i.e. death due to hanging where there was cocaine present on toxicology.
Spain	The special register variables include: substances or metabolites identified in the toxicological analysis. Specimen tested (blood, hair …) and quantity. Besides, the name of substances used just before the death (this information must, desirably, came from analytical information) are asked. ▪ **Classification used for drug and metabolites:** COCAINE DRUG 2100 Cocaína sin especificar *Metiléster de benzoilecgonina* 2101 Cocaína (Clorhidrato) *Cocaína en polvo* *Perico* 2102 Base libre de cocaína *Crack* *Base* *Basuco* *Boliches* 2103 Pasta de coca *Sulfato de cocaína* 2104 Hojas de coca *Erythroxylon coca* 2188 Otros derivados de la coca especificados COCAINE METABOLITES (02100) 02100 Metabolitos de la cocaína sin especificar 02101 Ecgonina metil ester 02102 Ecgonina 02103 Norcocaína 02104 Hidroxicocaína 02105 Etil-benzoil-ecgonina *Cocaetilena* *etilcocaína*

	etiléster de benzoilecgonina 02106 Benzoilecgonina ▪ **Classification used for sample place:** Hair, blood, urine, bile, gastric liquids, cerebrospinal liquids, internal organs, eye liquids, others. ▪ **Quantitative results**
Portugal	It could only be used the category of overdose. Classification bay way of manner of death would be interesting, but currently it is impossible to accomplish proper information.
France	Cocaine use as main cause of death
Austria	The categories are 'intoxication with opiate' and 'intoxication without opiates', these are further distinguished in cases with or without alcohol and with or without psychoactive medicine.
Luxembourg	See Q2
Croatia	N/K
Finland	Cocaine and metabolites, other tox findings, gender, age, cause of death, manner of death
Czech Republic	ICD10 code T40.5 and/or results of toxicology and autopsy
Romania	N/A
Slovenia	Direct cocaine deaths, or deaths of cocaine users followed by in a cohort
Hungary	Yes. Metabolites are enlisted individually. We distinguish poisonings and indirect deaths.
Malta	N/K
Denmark	There are 2 categories: cocaine alone and cocaine with heroin (both in deadly concentrations)

Q5	Are poisonings distinguished from other types of deaths, e.g. somatic?
Country/expert/institution	Response
UK	Can be, based on ICD-10 codings
Netherlands	See above (Q4)
Cyprus	The main distinction in our SR is between direct and indirect DRDs. Some information about the manner of death, e.g. suicide by hanging, may also be available.
Italy	No, on SR.
Ireland	Yes
Spain	It is not possible to have to much detailed information, however collected information include the following questions: (1) does the cause of death due to a previous pathology worsened for the use of psychoactive substances? (2) Is there any evidence of suicide? (3) Is there any evidence of recent vein puncture (less than one week)?
Portugal	Yes
France	Theoretically yes (accidental poisoning; suicide; unidentified intent — following ICD-10 mainly).
Austria	Poisoning/intoxication are distinguished from indirect deaths (e.g. somatic).
Luxembourg	The developed software would allow it, but the results are of course largely dependent on the level of details of the data
Croatia	N/K
Finland	Yes

Czech Republic	Yes
Romania	All cases of intoxication are forensic cases, and the nature of death is declared 'violent' if final conclusions of forensic reports maintain/sustain the cause of death as being poisoning/drug-related/
Slovenia	Yes, but only in a cohort. GMR gets only direct deaths
Hungary	We distinguish poisonings and indirect deaths, Yes, the cause of death clearly states that.
Malta	Poisonings are distinguished from other deaths and classified using ICD-10 coding
Denmark	Yes

Q6	Which cocaine metabolites are normally screened for in your country/special Register/Institute? [Examples might include: cocaine; benzoylecgonine; ecgonine; ecgonine methyl ester; norcaine; p-hydroxycocaine; m-hydroxycocaine; p-hydroxybenzoylecgonine (pOHBE); m-hydroxybenzoylecgonine; and cocaethylene]
Country/expert/institution	Response
UK	Cocaine, cocaethylene, benzoylecgonine, ecgonine, ecgonine methyl ester, methylecgonine, ethylecgonine
Netherlands	With the general unknown screening we will see cocaine, benzoylecgonine, methylecgonine, norcocaine, hydroxycocaine, cocaethylene and sometimes others. Cocaine, benzoylecgonine and methylecgonine are quantitated.
Cyprus	This question may be forwarded to our National Toxicological Laboratory if requested. State General Laboratory has informed us that it tests for cocaine, benzoylecgonine, Ecgonine and Ecgonine methyl ester.
Italy	As specified in Q1, SR records cases only on evidential basis. In case of ascertainment made by Forensic Toxicology laboratories, cocaine, benzoylecgonine, ecgonine, ecgonine methyl ester, norcaine, and cocaethylene are screened.
Ireland	Cocaine metabolites presented on PM toxicology reports include; benzoylecgonine, ecogonine methyl ester, cocaethylene, methylecfonidine and norcocaine. the most common metabolites we see on PM toxicology reports regarding cocaine include; benzoylecgonine and cocaethylene.
Spain	COCAINE METABOLITES (02100) 02100 Metabolitos de la cocaína sin especificar 02101 Ecgonina metil ester 02102 Ecgonina 02103 Norcocaína 02104 Hidroxicocaína 02105 Etil-benzoil-ecgonina *Cocaetilena* *etilcocaína* *etiléster de benzoilecgonina* 02106 Benzoilecgonina
Portugal	Substances include in toxicological screening in the Laboratories of Forensic Toxicology of the National Institute of Legal Medicine are: Cocaine, benzoilecgnonine; ecgonine metal ester and cocaethylene.
France	Cocaine is. Regarding other metabolites, I'm awaiting confirmation.
Austria	The following metabolites are usually screened; however, they are not recorded as such in the SR: cocaine; benzoylecgonine
Luxembourg	Cocaine; benzoylecgonine; ecgonine methyl ester and cocaethylene
Croatia	N/K

Finland	Cocaine, benzoylecgonine, ecgonine methyl ester, cocaethylene (recently)
Czech Republic	All above mentioned depending on the screening method
Romania	Quantitative determination is possible for cocaine and benzoylecgonice/ecgonine. norcaine; p-hydroxycocaine; m-hydroxycocaine; p-hydroxybenzoylecgonine (pOHBE); m-hydroxybenzoylecgonine are not part of technical capabilities of our lab.
Slovenia	It should be asked in Toxicology laboratory at the Forensic Institute of Medical Faculty in Ljubljana.
Hungary	Benzoylecgonine only.
Malta	N/K
Denmark	Benzoylecgonine only (presumably cocaine as well)

Q7	Would you be able to provide information on drug combinations (other substances identified)?
Country/expert/institution	Response
UK	Yes
Netherlands	Not at this moment. We don't categorise and do not publish yearly reports. However, at the moment, we are performing a second pilot on DRD, results will be ready in 2 months.
Cyprus	Full information on any substances detected may be provided.
Italy	YES when toxicological data are available.
Ireland	Yes
Spain	Yes. In Spain it is frequent the use of heroin and cocaine together (mixed) and polydrug behaviours. Note that if we found more than one substance, it is not possible, always, to assign the death to one specific drug. **Classification for combination:** **111** Heroína+cocaína sin especificar (Mixed) *Revuelto* *Rebujo* *Rebujado* *Mezcla de heroína+cocaína* 1121 Heroína+cocaína base (Mixed) *Revuelto* *Rebujo* *Rebujado* *Mezcla de heroína+crack*
Portugal	Yes, we are able to provide information on drug combinations of other substances (e.g. alcohol, opiates, medicines)
France	SR is not allowed to provide information at individual level but provides a general overview on related combined substances found with cocaine.
Austria	Yes, but it means serious additional work
Luxembourg	Yes, as a whole, drug screening is done in our institute at autopsies
Croatia	N/K
Finland	Yes
Czech Republic	We fill in the part 4 of ST5, thus info can be withdrawn from Fonte or provided by the EMCDDA
Romania	Yes, because the toxicological analyses are made in second stage by GC-MS an HPLC
Slovenia	Yes
Hungary	Yes, all substances are enlisted for a case.

Malta	N/K
Denmark	Regarding cocaine, see above, but yes other drugs are also screened for.

Q8	Is 'crack' distinguished from powder cocaine in your Special Register/Institute?
Country/expert/institution	Response
UK	Yes, but only if sufficient detail/information is provided
Netherlands	Not by NFI, I am not certain about CBS.
Cyprus	No, not unless some extra police or forensic info suggests this distinction.
Italy	Yes
Ireland	Yes
Spain	Yes (see Q4)
Portugal	No
France	Supposedly yes, although in practice we have no case available.
Austria	No cases of crack in Austria
Luxembourg	Not on the level of the register of the deaths. In our institute, biological samples collected at autopsy were screened for the pyrolysis products of crack as anhydroecgonine methylester (AEME)
Croatia	N/K
Finland	Not analytically; may be mentioned in background information in some cases
Czech Republic	Usually impossible to determine from autopsy/toxicological analysis
Romania	No
Slovenia	No. We do not have a special register
Hungary	This question never occurred. If you can tell it from a detailed toxicological analysis (metabolites), yes, in theory. Crack cocaine use is not prevalent (if any) in Hungary.
Malta	N/K
Denmark	No

Q9	Is the mode of use/route of administration of drugs known/recorded in your Special Register/Institute?
Country/expert/institution	Response
UK	Yes, if provided — but not coded into separate variable. Would need to do text search of circumstances of death
Netherlands	Not at NFI, I am not certain about CBS. We used to measure anhydro-methylecgonine as a marker for smoking cocaine, but as we draw our conclusions from the concentration of cocaine, this was hardly ever useful.
Cyprus	Wherever possible via police and forensic reports, yes.
Italy	No
Ireland	Yes provided this information is available on the coroner's records
Spain	No. With regard to this question, the only information collected is: 'Is there any evidence of recent vein puncture (less that one week)?' At the present time it is not possible to know the information of the route of administration of the substance witch the death is attributed.
Portugal	The route of administration is mainly described in the external examination.
France	It isn't.
Austria	Information if an injection mark was found is recorded.
Luxembourg	Not in the register of the death.

	In the institute in some cases this data is available depending on the information given by the police officers. Moreover, hair analysis done in our institute could provide pertinent data about the mode of consumption (quantity and frequency).
Croatia	N/K
Finland	Usually not, but may be mentioned in background information in some cases
Czech Republic	if the information in known from clinical information or from the autopsy, then yes
Romania	Yes
Slovenia	No
Hungary	No. However, sign of injecting (recent vs. earlier) is recorded.
Malta	N/K
Denmark	There is a mention of (fresh) injection marks if identified

Q10	If requested, would your country/Special Register/Institution be able to provide [anonymised] datasets on individual cases? Note that we do not plan to request this at first as part of this contract. Nonetheless, if some experts are interested to participate in a multisite analysis, and are in a position to provide disaggregated data, we could explore e.g. age, gender, toxicology, causes of deaths to draw up a clearer descriptive epidemiology of the most recent cocaine-related deaths in Europe.
Country/expert/institution	Response
UK	Yes, but theoretically may need consent of the np-SAD Director. In practice, the analysis would be done directly by the contractor so no data would have to be shared.
Netherlands	This could be discussed.
Cyprus	Anonymised data sets on individual cases may be provided.
Italy	Yes, but data from SR and data from forensic toxicologies separately: the Law that in Italy safeguards the privacy, hampers check of nominal records among different sources of data.
Ireland	We could possibly provide anonymised data on individual cases. However, this would be done under strict guidelines and a MoU.
Spain	The Spanish Observatory on Drugs is interested in participate in this project and open to collaborate in more specific studies. Nevertheless, we need to know more details about the conditions regarding the provision of datasets on individual cases. In this moment, we are not able to give the complete datasets but we can make some coordinated analysis.
Portugal	Yes.
France	They will not, due to a firm opposition from the Medical Council, which authorised the SR. It is a restriction we have been discussing over the years in order to reach an agreement or at least a more flexible procedure but to no avail so far. Nevertheless, you could contact Michel Mallaret and Nathalie Richard, heads of the DRAMES project retrieving information from toxicologists and in charge of the SR (MMallaret@chu-grenoble.fr - Nathalie.RICHARD@afssaps.sante.fr).
Austria	I think we could provide this information, depending on the additional work associated with it. Please keep me up to date on this research!
Luxembourg	As for the moment, we have no cases of cocaine deaths in Luxembourg, we cannot provide data.
Croatia	Additional date for cocaine-related deaths could be provided only for persons who had been treated for drug addiction before (route of

	administration, etc.).We think that our cocaine-related death dataset will not contain all necessary variables for the proposed research, but if you are still interested, we could deliver the dataset we have.
Finland	Yes, but this depends on the aims of the study and the scientific benefit
Czech Republic	Yes, under specific agreement. But cocaine-related deaths are very rare in the Czech Republic and cases will not be more than 10 since 2003, when an electronic database has been available.
Romania	Yes, but I stressed the fact that in 2006–10, included, we have a case of drowning under the influence of cocaine, alcohol and THC, another case of falling from a height under the influence of cocaine and one case of DRD due to direct intoxication, in 2006, but the toxicological exam made at that moment is just a qualitative one.
Slovenia	It could be done, but only basic variables, on the basis of which identification of individuals could not be possible.
Hungary	In theory, yes. In the last five years we recorded four direct death cases in total, so it is in question if they are useful for you.
Malta	?
Denmark	Yes, we will be able to provide data on an individual level, and we are interested to participate in this project. Unfortunately, our participation depends on when you need data as we are in the middle of a big reorganisation, which will last up to several months before getting to a normal state.