

Article

Drug-related deaths "deep dive" into coroners' records

An experimental "deep dive" study investigating deaths related to drug misuse in 2014 and 2015 using available coroners' records.

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Release date:
6 August 2018

Next release:
To be announced

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1 . Summary

Office for National Statistics (ONS) regularly publishes analyses of drug-related deaths and suicides, based on the information provided by coroners through the death registration process. In 2017, Public Health England (PHE) commissioned an experimental “deep dive” study, which was carried out on a sample of 115 drug misuse deaths, with ONS staff visiting coroners’ offices across England to review the available records in detail and record selected additional information using a structured electronic questionnaire. The sample included both suicides and unintentional overdose deaths.

The exercise established that it is feasible but resource-intensive to successfully conduct such a study. The small sample size made meaningful quantitative analysis difficult, while interpretation of the results was hindered by incomplete data. The approach is likely to be most useful to identify emerging issues and gain qualitative insights, which the routine death registration data cannot supply.

This report briefly describes the findings on the demographic and lifestyle characteristics of the deceased, their health and contact with services, and the circumstances of the death. The most common characteristics of the sample (not necessarily occurring together) were that the deceased was White, single or divorced, living alone, unemployed, and had a prior history of drug use and/or mental health issues. The findings suggest a vulnerable, at-risk population engaging in unsafe drug-taking practices such as taking drugs alone and consuming multiple different types of drug alongside alcohol.

A number of additional observations are made relating to the use of naloxone in opiate overdose deaths, dosages of methadone, prescriptions for opioids, potential misuse of prescription medicines, and the background to some suicides.

ONS is able to analyse trends in the involvement of specific drugs in suicides and overdose deaths only in so far as coroners provide details of all the drugs identified when registering the death. It was noted during the study that, in many cases, more information was held by the coroner than was communicated to ONS. More complete and consistent reporting to ONS would be valuable to increase knowledge, provide better evidence to guide drug misuse policy and therefore save lives.

ONS recommends the following:

- PHE should consider the issues raised that relate to clinical practice and specific risk factors, such as taking drugs without anyone else present and consuming multiple different types of drug alongside alcohol, in consultation with key government and academic stakeholders
- ONS should continue to explore large-scale data linkage of death registrations with NHS and other administrative data sources, such as prescriptions, and design both cross-sectional and longitudinal analyses to contribute to understanding of the patterns of drug misuse, causal relationships, and the individual pathways of those who die of drug-related causes
- ONS, PHE, the Chief Coroner and the Coroners’ Society should work together to promote the value of coroners’ records as a source of information, which can help to prevent future deaths through public health research, including by providing information and guidance to coroners and their staff
- ONS, the Chief Coroner and the Coroners’ Society, the Ministry of Justice and General Register Office, should work together to promote the completeness and consistency of coroners’ reports of details of deaths to ONS
- ONS and PHE should consider further applications of this “deep dive” approach to improve understanding of causes of death, particularly to identify emerging issues and gain qualitative insights, but only where the expected benefit clearly justifies such a resource-intensive commitment

2 . Background information

Drug use and dependence are known causes of premature mortality, with drug-related deaths accounting for around one in six deaths of people in their 20s and 30s in 2016. Drug-related deaths occur in a variety of circumstances, each with different social and policy implications. There is considerable political, media and public interest in these figures.

Office for National Statistics (ONS) holds details of all death registrations from 1993 onwards and deaths from drug poisoning are analysed using information on the drugs taken from this database. Figures are published annually in the [Deaths related to drug poisoning in England and Wales](#) statistical bulletin.

The published figures include accidents and suicides involving drug poisonings, as well as deaths from drug abuse and drug dependence. They do not include other adverse effects of drugs such as anaphylactic shock, or other types of accidents, for example, a car crash where the driver was under the influence of drugs.

Around two-thirds of deaths related to drug poisoning are a result of drug misuse. Drug misuse deaths are those where the underlying cause is drug abuse or drug dependence, or the underlying cause is drug poisoning and any of the substances controlled under the Misuse of Drugs Act 1971 are involved.

Recent years have seen large year-on-year increases in drug misuse deaths in England, particularly those involving opiates such as heroin. The rate for [England](#) in 2016 increased to 44.1 deaths per million population from 42.9 deaths per million in 2015. This was a rise of 3% and an increase to 2,383 deaths. The number of deaths in 2016 was over three times higher than that in 1993, when the time series began. There has been a sharp rise in the number of deaths since 2012, with 2013, 2014 and 2015 showing the largest year-on-year rises in numbers.

In response to the rising number of drug misuse deaths in England, Public Health England (PHE) convened a [national inquiry](#) in partnership with the Local Government Association. The report concluded that the factors responsible for the increase in drug misuse deaths are multiple and complex, including an ageing cohort of heroin users, many of whom started to use heroin in the 1980s and 1990s, who are now experiencing cumulative physical and mental health conditions that make them more susceptible to overdose.

3 . Existing data and the “deep dive” project

All the data that Office for National Statistics (ONS) holds on deaths come from the information recorded on either the Medical Certificate of Cause of Death completed by a doctor, or the report provided by a coroner when a death is registered after inquest. [Figures on drug-related deaths are published in tables](#) broken down by age, sex and area of usual residence of the deceased, as well as drug(s) involved and underlying cause of death, as part of the annual drug-related deaths release.

While this information is helpful to monitor the broad patterns and trends in drug-related deaths, more in-depth information from alternative data sources would be valuable to better understand these deaths and find areas for potential intervention. Such sources include, but are not limited to, healthcare data such as prescriptions, General Practitioner (GP) records, Hospital Episode Statistics (HES), laboratory reports (toxicology) and other sources, for example, prison records.

While it would be a complex exercise for ONS to bring together all such possibly relevant data sources, much of the relevant information is in fact already collated in the records of the coroner's inquest for each death. Although the amount and type of information varies depending on local practice and the circumstances of the particular death, there is clear potential for extra information from this source to help provide insights for policy and prevention.

To improve understanding of some of the factors involved in drug-related deaths, Public Health England (PHE) commissioned ONS to conduct a “deep dive” into coroners’ records of drug misuse deaths across England as a whole. This was additionally seen by ONS as a “proof of concept” to determine whether this kind of study was useful and could be used to answer other research questions. The results of the study are presented in this report. ONS and PHE are grateful to the coroners and their staff who gave access to their records for this study.

4 . Methods

4.1 Sampling

To ensure the study produced robust results that were representative of drug misuse deaths in England, it was important to collect data from a large enough sample of coroners’ records, covering multiple geographical areas. At the same time, a balance had to be struck between the size of the sample and the resources available. Following a pilot of the methodology in the Avon Coroner’s Office, it became apparent that significant time was required to sift through the paper files to pull out the items of interest. A maximum of 15 deaths could be reviewed in a day by two researchers.

Sampling was carried out in two stages, which are detailed in this section.

Stage 1

A purposive sample was taken from the 85 coroner’s areas in England. It was decided to include seven coroners’ areas in the study, in seven different regions. These were:

- North East
- North West
- Yorkshire and The Humber
- East Midlands
- West Midlands
- London
- South West

These were selected to cover a mix of area types based on deprivation and urban-rural classification. Although the South East and East of England were not included in the study, the areas selected were considered likely to be sufficiently representative of all drug misuse deaths in England (see Table 1).

Table 1: Number of records examined by area, England, 2014 and 2015

Region	Coroner's area	Records examined	Drug-related deaths that occurred in 2014 or 2015
North East	Teesside	15	96
North West	Blackpool and Fylde	15	84
Yorkshire and The Humber	South Yorkshire (East)	14	74
East Midlands	Northamptonshire	15	67
West Midlands	Birmingham and Solihull	15	134
London	East	14	98
South West	Avon	27	139

Source: Office for National Statistics

Stage 2

A systematic random sample was then selected of 15 drug misuse deaths from each selected area, which occurred in 2014 or 2015. In addition, it was decided that twice as many records (that is, 30 altogether) would be chosen from Avon (the closest coroner office geographically to the Office for National Statistics (ONS) office in Newport) as a pragmatic way of increasing the total sample size. It was not possible to examine all records at each location; Table 2 shows that this did not create a significant bias.

The SAS software package was used to select the sample, which was stratified by age (aged under 40 or 40 and over years old), sex and underlying cause of death (suicide compared with other) and whether or not an opiate was involved in the death. This resulted in a sample that was broadly comparable with, and representative of, drug misuse deaths in England occurring in 2014 or 2015 (see Table 2).

Table 2: Proportion of drug misuse deaths according to groups used for stratification, England, 2014 and 2015 occurrences

		Population (%)	Intended sample (%)	Achieved sample (%)
Age	Under 40 years	43	47	47
	40 years and over	57	53	53
Sex	Male	74	72	73
	Female	26	28	27
Cause	Suicide	16	13	13
	Accidental	78	85	85
	Mental and behavioural disorders	5	2	2
Opiates	Yes	80	80	83
	No	20	20	17

Source: Office for National Statistics

4.2 Data collection and analysis

After viewing the kinds of information that would be available on the exploratory visit, a standardised electronic questionnaire was developed in Microsoft Excel to help collect the data from each record. This included:

- coroner's conclusion
- post-mortem and toxicology
- General Practitioner (GP) records including physical and mental health problems and prescribed medications
- paramedic report
- reports from hospital doctors or other specialists
- report from drug treatment clinic
- police report
- witness statements

The questionnaire ensured that reporting was targeted to pertinent areas of the coroners' records and that data were collected consistently across areas.

The records were reviewed by ONS staff on-site in the relevant coroner's offices. There were eight researchers who collected the data from the records. Researchers spent between one and two days at each coroner office. These data were then collated into one dataset.

Because of the small numbers and the incompleteness of data for many variables, statistical analysis for this report was limited to counts and percentages. All findings are indicative and no significance testing of differences was carried out.

5 . Results

The size of the coroners' files varied between cases, so in some areas it was not possible to analyse all the selected records within the time available. Therefore, some of the areas had slightly fewer records in the final analysis than was intended (Table 1). Due to the varying level of evidence gathered for each coroner's inquest, and the varying circumstances around the individual deaths, it was not always possible to complete all data for each sampled case.

The resulting dataset contained information on dozens of variables of varying quality and completeness for 115 individual records. This generated a considerable amount of data, so we have focused this report on four main areas:

- demographics and lifestyle – ethnicity, living situation, marital status, employment, drug use history, alcohol use
- health and contact with services – drug treatment history, mental health, physical health
- circumstances of death – location of occurrence and other people involved
- other observations – issues relating to specific drugs and completeness of drug information

Summary of main findings

Of the drug-related deaths in England that were sampled for this project, the attributes most commonly observed were:

- White
- single or divorced
- living alone
- unemployed
- male
- prior history of drug use
- found having already died
- history of mental health issues

This suggests a vulnerable, at-risk population engaging in unsafe drug-taking practices such as taking drugs alone and consuming multiple different types of drug alongside alcohol. There are limitations to this study, which make the interpretation of these main findings difficult. These are discussed later in the report.

5.1 Demographics and lifestyle

Ethnicity

Of the 115 records that were investigated, 68% of individuals were identified as either White and 6% as Asian, Black or other. There was no information on ethnicity in the remaining 26% of cases.

Living situation

The most commonly recorded living situation was for the deceased to be living alone in their own home (36%), while in 11% of cases, the deceased was recorded as living in temporary accommodation, such as a hotel, hostel or homeless shelter, or having no fixed abode. Another 27% were living with family and 10% lived with others, such as with friends or a house share, and three of the records inspected were of individuals who were inpatients at a psychiatric hospital. Living situation was not known for the remaining 14%.

Marital status

Just 10% of individuals were married, with 62% identified as single or aged under 16 years, 19% divorced and 4% widowed. The remaining 5% had no information provided. Information about children or dependents was not routinely available and so was not recorded.

Employment

Around half (48%) of all individuals were unemployed or economically inactive, with a further 6% not working due to a long-term condition or disability and 3% were retired. Only 24% were in employment, either as an employee or self-employed, at the time of death and 1% were classified as a student. Employment status was not known for 17% of cases.

Those who previously held a job before they became unemployed tended to have worked in skilled or elementary trade occupations rather than administrative, managerial or public service roles. No particular occupation stood out for those who were employed at the time of death, or had previously worked.

Drug use history

A large majority of individuals (80%) had used drugs at least once prior to the incident that caused their death. Just 12% had no history of prior drug use and of these, half were suicides. The drug history was not known for 8% of cases. There was evidence of drug use in the six months prior to death in 51% of cases. A further 6% of cases stated that the past drug use was not within the last six months and 23% did not state how recent the past drug use was.

Of those that had a history of drug use, 62% of the records indicated the individual had taken heroin in the past. Information on previous drug use was of varying detail in different areas and between records. A history of injecting drugs was identified in 42% of cases. Evidence may be ambiguous around whether injection was used to administer the drug, so, for example, not having injection stated in the evidence should not be used to assume that injection was not used, it just may not have been recorded.

In 46 out of the 48 cases identified where the individual had injected drugs in the past, heroin was the drug that had been injected. At least 44% of individuals who had previously injected drugs had done so in the six months prior to death.

Alcohol

Around 54% of all cases were identified as having had a history of alcohol misuse.

5.2 Health and contact with services

Drug treatment

Public Health England (PHE) routinely link drug treatment data to mortality data and have produced two [reports showing high-level results of this matching](#). This section of the study investigated if any extra information such as methadone dosage could be found in the coroners' records that would not be available from the PHE linked dataset.

Out of the 115 records reviewed, 58 (50%) provided evidence that the deceased had engaged with drug and alcohol treatment services, with varying degrees of compliance with the treatment regime. In the majority of cases, the length of treatment was not provided. Over one-third of those who had some contact with treatment services had done so within the final month prior to death and 60% had had some contact in the year before death.

Just over half (53%) of those who had engaged with treatment had been on a treatment programme that included methadone (31 cases), with 10 individuals (17%) having received buprenorphine. There are some individuals who will appear in both of these groups, as they had previously received either methadone or buprenorphine and switched to the other, so these numbers cannot be combined due to risk of double counting.

The usual [optimal clinical dose](#) for methadone is 60 to 120 milligrams daily. Of the 31 individuals identified as being on a methadone programme, 21 cases had the dosage recorded. Of these, over half (11) were identified as being on a dose of methadone of less than 60 milligrams per day. It was not always clear whether these individuals were on a maintenance programme, or if they were being reduced or detoxed. Information was not provided about the height, weight or tolerance levels of the individual, which may affect the dose required. All remaining cases were on a dosage between 60 and 120 milligrams per day.

For buprenorphine, the recommended dosage is 12 to 16 milligrams, with some needing up to 32 milligrams. For the 10 cases identified as being on a buprenorphine programme, seven had their dosage recorded. Of these seven, there were three cases where the dosage was less than 12 milligrams. The remaining four cases had a recorded dosage of 12 to 16 milligrams.

Mental health

In the general population, around [one in four people](#) experience a mental health problem each year. In the sample of drug-related deaths, in at least two-thirds of cases the coroners' records mentioned mental health conditions (for example, depression). There were 7% of people explicitly stated as having no history of any kind of mental health problems, with the remaining 25% of records not providing sufficient information. Of those who had a history of mental illness, 95% were experiencing problems either around the time of death or in the six months prior.

Of the records with insufficient information, 6 of the 21 records were being prescribed medication with anti-depressant or anti-anxiety properties around the time of death, which suggests they may have been suffering from a mental health condition. The quality of the prescription data included in the records was too variable between areas to provide any robust quantitative analysis on this.

Of the individuals with a history of mental illness, 64% had a previous history of depression, with 36 confirmed as suffering from depression around the time of death. A history of anxiety was identified in 24 individuals, with 10 suffering around the time of death.

Of those with a past or current mental health issue, 58% had had some kind of contact with mental health services. Around one-third of those who had experienced mental health problems in the six months prior to death had contact with mental health services during that time. Just 10 individuals (14%) experiencing a mental health problem were in contact with mental health services around the time of their death, whilst 31 individuals who had a mental health problem had never had any contact with mental health services.

Around two-fifths (45 cases) of individuals had a history of self-harm and/or previous suicide attempts. Two-thirds of these (30 cases) involved suicide attempts. Half of the individuals whose deaths occurred as a result of suicide had previously attempted suicide.

Physical health

Information about the deceased's current physical health was available in 102 out of the 115 files that were investigated, with some limited history available in an additional five cases and further information provided from the post-mortem in all cases.

In 16 cases, no past or current health problems were recorded. In these cases, there was evidence that the deceased had been registered with a General Practitioner (GP), but no information was available about whether or not they had not attended because they had no problems, or simply because they did not engage.

Only those conditions with enough cases to hold some value or be of particular interest have been included in the following section.

[Tobacco smoking is common among drug users](#), so it was expected that there would be evidence of respiratory disease. Asthma was explicitly stated in the medical records of 20 individuals, with further individuals receiving a prescription for an asthma inhaler around the time of death (although no formal mention of asthma in their record). Pneumonia had affected 12 people either in the past or around the time of death, 11 had suffered from chronic obstructive pulmonary disease and 17 had some experience of another respiratory disease recorded either in the past or present.

Over one-quarter of individuals (29%) were recorded as having suffered from a chronic pain condition either recently or in the past. In 26 of these cases, the chronic pain condition was current at the time of death. Many of the individuals had been in receipt of a long-term, repeat prescription of opioid analgesics with abuse potential such as tramadol and oxycodone.

Intravenous drug users have an elevated risk of experiencing venous thromboembolism. Deep vein thrombosis or pulmonary embolism was recorded in 14 cases. At least seven individuals had experienced an infected injection site, 17 had suffered from hepatitis and 10 had experienced another infection excluding hepatitis.

Consistent with what might be expected due to elevated levels of alcohol abuse, as well as the abuse of heroin and cocaine, fibrosis or cirrhosis of the liver was identified in two cases, with another liver disease recorded in 18 further cases. Kidney disease was present in 13 individuals and pancreatic disease in four individuals.

At least four individuals were identified as having suffered a myocardial infarction, four had suffered from heart failure and eight had suffered from hypertension. Atherosclerosis was recorded in 13 cases and 14 had suffered from another heart or circulatory disease.

5.3 Circumstances of death

In 46 cases, it was stated that no one else was present when the deceased took the drug. Someone else was identified as having been present in 26 cases and in the remaining cases, it was not possible to tell from the information provided. In cases where someone was present, often the other individuals had also been using drugs or alcohol. There were some instances where people were present in the house but reported they were not aware that the deceased had taken drugs until they found the deceased; in these instances, the deaths were not exclusively suicides.

In 62% of cases (71 records), the individual took the overdose that resulted in their death in their own home. A further 19 people overdosed (17%) in someone else's home. Of all the cases reviewed, only one incident occurred in what would be considered a public place. Of the 46 cases where no one else was present when the deceased took the drug, 31 (two-thirds) occurred in the home of the deceased.

Only 27 individuals were confirmed as having been found alive. In three cases, it was not possible to tell from the coroners' records. The remaining 85 individuals were found having already died. Of the 46 people who overdosed alone, eight were found alive, while eight of the 26 individuals who had someone else present when they took the drugs that killed them were found alive.

Just 11% of those who overdosed in their own home were found alive in contrast with 37% of those who overdosed in someone else's home. Of the 27 individuals found alive, only seven reached hospital alive before dying at the hospital.

Around two-fifths (43%) of people were found (either alive or dead) by a non-family member who knew the deceased such as a friend, acquaintance, flatmate or care worker. Just under one-third were found by a family member such as a parent, child or sibling. There were 10 people found by a partner or spouse and a further seven out of the 115 cases surveyed were discovered by the police.

5.4 Other observations

Issues relating to specific drugs

Out of the 27 found alive, five cases were not opiate overdoses, meaning it would not have been appropriate to use naloxone. Of the remaining 22 cases, just nine cases confirmed that naloxone was given, while in a further four cases, naloxone was available and would have been appropriate but was not administered. In all cases where naloxone was administered, it was done so by a paramedic who had the naloxone with them. In the remaining nine cases where the individual was found alive, it was not known whether or not naloxone was administered.

As there is no comparable dataset, it is not possible to know how many individuals were found alive and received naloxone and as a result survived.

Completeness of drug information

A long-term issue in the reporting of drug-related deaths by Office for National Statistics (ONS) is insufficient information on the death certificate about drugs implicated in the death. In around one in eight drug-related deaths, only a general description is provided on the death certificate such as "illicit drug overdose" or "multiple drug toxicity". In other cases, it may state that it was an opiate-related death but not provide information on the types of opiate involved.

In every case reviewed as part of this project, including those where only a generic description was recorded on the death certificate, detailed information about the drugs implicated in the death was provided in the toxicology report. Inclusion of this additional information on the death certificate could significantly improve the quality of reporting by ONS.

A further observation was that where specific drugs have been mentioned on the death certificate, not all drugs present in the toxicology results are recorded. In some instances, this is appropriate, for example, if a drug was present in an extremely low-dosage and was not implied to have caused the death in any way whatsoever. However, in other cases, the drug was present at a reasonably high, though not necessarily fatal level. While the drug on its own may not have caused the death, its interaction with the other substances present, as well as alcohol in some cases, may have played a part.

Whilst neither observation undermines the existing official statistics, nor do they suggest an undercount of the overall number of drug-related deaths, improvements to the recording of drugs, specifically the inclusion of all drugs potentially implicated in the death on the death certificate, may help to better estimate numbers involving each type of drug.

Limitations of the study

It is important to note the limitations of this study. These include the small sample size (just over 2.5% of the total number of deaths from drug misuse) and lack of any control group. The sample included both suicides and unintentional overdose deaths: while these two groups may be expected to have some differing characteristics, the small numbers limit the potential for describing them separately.

As described earlier in the report, the sample size was largely due to resourcing constraints and scheduling difficulties. In addition, many coroners' offices are very limited in terms of space to accommodate researchers, so a maximum of two researchers were able to attend at any one time, which limited the number of records that could be reviewed in one day.

No control group was taken from the wider, non-drug using population to compare with this study. So, for example, while it was possible to say how many deaths within the sample occurred where the individual was found already dead, it is not possible to say whether this is higher or lower than for deaths from other causes. Another limitation is that this report does not have any information on people who overdose but survive, meaning no comparisons can be made, especially when looking at the use of naloxone.

Similarly, comparisons of certain demographics have not been made between this sample group and the drug using population. For example, it was found in this study that at least 68% of individuals were White, but this was not compared with an equivalent figure for all drug users as a comparable figure was not identified due to differences in definitions, and this study had a high proportion (26%) of cases where the ethnicity was not known, making comparisons difficult or inappropriate. Comparisons can be made with drug users in treatment, where [85% of the population in treatment were described as White British \(PDF, 900.6KB\)](#).

The varying scope and lack of a consistent standard or structure for coroners' records make it particularly difficult to draw negative inferences – for example, the lack of reference to past use of heroin cannot be safely assumed to mean that the deceased had no such drug history. This means that the numbers found to have such characteristics should be taken as a minimum.

However, value can still be taken from identifying such scenarios where the death may have been preventable, for example, had the deceased been found alive, naloxone may have been given which may have resulted in the individual surviving the overdose.

6 . Conclusions and recommendations

This study, although based on a small sample and not suitable for reliably measuring inter-group differences or statistical associations between factors, highlighted some important points.

Main points relating to characteristics and circumstances of the deaths

The most common characteristics of the sample (not necessarily occurring together) were that the deceased was White, single or divorced, living alone, unemployed, and had a prior history of drug use and/or mental health issues. The deceased was most often found having already died. It was already known that around three-quarters of drug misuse deaths are male. In line with other reports, the findings suggest a vulnerable, at-risk population engaging in unsafe drug-taking practices such as taking drugs alone and consuming multiple different types of drug alongside alcohol.

The proportion of deaths where the deceased was receiving a dose of methadone less than usually recommended may be worthy of further investigation. It is not known whether this reflects valid differences in clinical practice and individual needs, potentially premature reduction in prescribed dosage, or some other issue.

The proportion of individuals who had mental health issues but were apparently not in contact with mental health services may also be of interest.

The relationship between reported chronic pain conditions, opioid dependence and opioid misuse is likely to be complex. This and other questions around the potential misuse of prescription medicines, and the interaction between use of prescribed and illicit drugs, need more in-depth and focused study.

Main points relating to data on drug-related deaths

Firstly, the study demonstrated that review of coroners' records using a structured questionnaire is a feasible way to collect detailed and useful information about deaths that is not readily available from any other source. At the same time, the practical limitations of this method were well illustrated in terms of the person-time needed – with two researchers able to review only 15 cases per day on average – and the variability found in the content of coroners' records. It should be noted that the records were available in hard copy only and with differing degrees of filing organisation and ease of access. Understandably, the files could not be removed from the premises for later study. Making more efficient use of this data source would be difficult and there is no obvious alternative to the present resource-intensive approach while coroners' records remain in this form.

Therefore, while further studies using a similar approach will be useful – particularly to identify emerging issues and gain qualitative insights, which would be unavailable through routine data – the importance of the knowledge gained has to be balanced against the resources needed.

The variable completeness of the information of interest is also unfortunate, but possibly unavoidable. Coroners routinely receive a range of documents concerning a death, such as toxicology reports where drugs are involved, but have broad discretion on what other information is collected and how it is recorded. The discharge of the coroner's legal responsibility requires them to obtain only the information needed to determine who the deceased was and how, when and where they came by their death, and individual coroners will differ in how wide-ranging they consider this scope to be, generally and in any particular circumstances. On the other hand, coroners are aware of the importance of preventing future deaths and information that might help to, for example, target drug misuse interventions at those most at risk can contribute to saving lives.

A point of particular concern, as explained in Section 5.4 previously, is the lack of communication of detailed drug information from coroners to Office for National Statistics (ONS) in many cases where that information was in the coroner's possession. Details of the drugs involved in both accidental overdoses and suicides are essential for the understanding of trends and the formulation of drug misuse and suicide policies and interventions.

Although we recognise the information ONS and Public Health England (PHE) are seeking is often information that the coroner is not required in law to provide, and may not be central to the statutory questions they are required to answer, it is possible that more complete and consistent recording of this and other important pieces of information could be encouraged. This could be encouraged by means such as guidance and better communication to coroners under the auspices of the Chief Coroner and the Coroners' Society, and review of the forms through which coroners register a death and provide related information to ONS.

ONS recommends the following:

- PHE should consider the issues raised that relate to clinical practice and specific risk factors, such as taking drugs without anyone else present and consuming multiple different types of drug alongside alcohol, in consultation with key government and academic stakeholders
- ONS should continue to explore large-scale data linkage of death registrations with NHS and other administrative data sources, such as prescriptions, and design both cross-sectional and longitudinal analyses to contribute to understanding of the patterns of drug misuse, causal relationships, and the individual pathways of those who die of drug-related causes
- ONS, PHE, the Chief Coroner and the Coroners' Society should work together to promote the value of coroners' records as a source of information, which can help to prevent future deaths through public health research, including by providing information and guidance to coroners and their staff
- ONS, the Chief Coroner and the Coroners' Society, the Ministry of Justice and General Register Office, should work together to promote the completeness and consistency of coroners' reports of details of deaths to ONS
- ONS and PHE should consider further applications of this "deep dive" approach to improve understanding of causes of death, particularly to identify emerging issues and gain qualitative insights, but only where the expected benefit clearly justifies such a resource-intensive commitment