

DTMU Analysis

Drug and Alcohol Related Deaths in the South East of England

A report looking into the numbers, demographics and causality of deaths among drug & alcohol clients in structured treatment and resident in the South East

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Document purpose

For information, to support work in the field of drug treatment, to help DAATs, Local Authorities and other services in the South East to be more informed about the drug treatment population

Useful websites

www.dtmu.org.uk
www.sepho.nhs.uk
www.nta.nhs.uk
www.sgul.ac.uk
www.statistics.gov.uk

Drug Treatment Monitoring Unit

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Executive Summary

Annual Coroner's Report

- 2010 report quotes 258 drug-related deaths (DRDs) in the South East for 2009. This constitutes an increase of 11% on the 231 figure quoted for 2008.
- It is a second year on year increase. A 5% rise was noted for 2008 compared to 220 deaths in 2007. By contrast the national data noted np-SAD decrease of 3.2% from 1,539 in 2007 down to 1,490 in 2008 followed by an increase in 2009 back to the levels from 2007.

Office for National Statistics

- According to ONS a total of 850 men and 257 women died between 2004 and 2007 with drug or alcohol related underlying cause of death.
- The median age of DRDs for men was 38 years. For women the equivalent was 42 years.
- 'Accidental poisonings with drugs' constituted almost 30% of all male DRDs. For women 'mental and behavioural disorders related to alcohol' constituted close to 40% of all the cases.

National Drug Treatment Monitoring System

- According to NDTMS data 725 people died in the period of 2005-2009 amongst those accessing drug and alcohol structured treatment in the South East.
- Over 70% of deaths were amongst men and the average age at death in the South East was 43 years.
- Over 54% of the deaths were amongst problematic drug users.
- 73% of clients who died were retained by the services for the period of at least 12 weeks, i.e. were classified as being in effective treatment.

Context

Drug and alcohol misuse can cause harm to the users, their families and the general public on many levels, with impacts on mental and physical health, as well as being able to function in society. A small number of users will die from activities directly or indirectly related to substance misuse.

Drug and alcohol related deaths can be directly or indirectly related to substance misuse. They can include drug overdoses, particularly amongst less experienced drug users, self harm related also to mental health issues, intoxication induced accidents, long term illnesses and a variety of social, mental and health impairments. This report looks at the fatalities related to drug and alcohol misuse in the South East of England, their demographics and socio-economic circumstances by analysing the part of the population accessing structured treatment in the area.

Drug-related deaths (DRDs) are thought to be proportionately rare, but also probably under-reported. However, the numbers are on the increase nationally. Drug treatment is potentially the best tactic in the strategy of reducing harm related to drugs and alcohol use. Therefore reducing the number of drug related deaths is still one of the objectives of the 'Tackling Drugs to Build a Better Britain strategy'.¹ The same strategy document quotes an increase in the number of deaths attributable to the misuse of drugs in the UK from 1,399 in 1993 to 1,805 in 1995.

More recently the UK numbers went up again from 1,752 deaths in 2006 to 2,182 in 2009 according to the St George's University research data.² When comparing these numbers to the Office for National Statistics (ONS) mortality figures this translates into less than 0.5% of the 507,829 deaths from all causes in England and Wales in 2008³ being drug related.

There is a substantial amount of literature on the subject of drug-related deaths. One of the most comprehensive is the St George's annual report on *Drug-related deaths in the UK*⁴, providing analysis on all

deaths in which illicit drugs were implicated. The report shows the total figure of DRDs as a combination of numbers from the National Programme on Substance Abuse Deaths (np-SAD), Scottish Crime & Drug Enforcement Agency (SCDEA) and the Northern Ireland Statistics & Research Agency (NISRA) and compares the data within the whole of UK by areas, Drug and Alcohol Action Teams (DAATs) and coroners' jurisdiction areas. The data is analysed in demographic and socio-economic context and looked at by the types of drugs involved in the deaths.

- ↳ South East Population: over 8 million
- ↳ In treatment 2008: 24,820
- ↳ Drug-related deaths 2008: 231

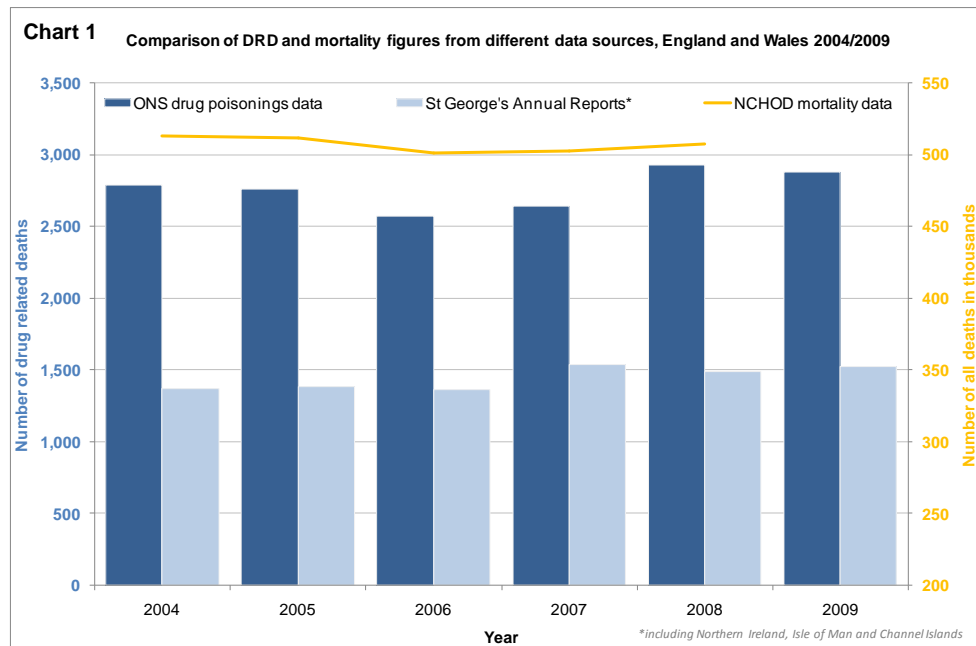
¹ *Tackling Drugs to Build a Better Britain*; <http://www.archive.official-documents.co.uk/document/cm39/3945/problem.htm>

² Number of np-SAD drug-related deaths notifications, *Drugs-related deaths in the UK, Annual Report 2010*, St George's University of London, UK, August 2010

³ nchod, DSR_1993_2008.xls, <http://www.nchod.nhs.uk/>, July 2010

⁴ Available at <http://www.icdp.org.uk/>

ONS *Drugs related to drug poisoning in England and Wales* is another source of DRD data. These statistics represent data on poisoning deaths, involving both legal and illegal drugs in England and Wales.⁵



Sources: *Deaths related to drug poisoning in England and Wales, 2009*, ONS; *Drugs-related deaths in the UK, Annual Reports 2005-2010*, St George's University of London; NCHOD DSR_1993_2008.xls.

Both above sources use the International Classification of Diseases and Related Health Problems (ICD-10) codes to calculate the numbers of drug related deaths. However, ONS data included codes relating to legal and illegal drugs while St George's research concentrates solely on illicit drugs. The variations in definitions mean that numbers from these different statistics are not directly comparable, however when plotted on chart 1 they seem to suggest somewhat similar trends in the changes of numbers of DRDs. These trends are also similar to the trend in all deaths, as per NCHOD mortality data.

Either one of these sources offers useful and substantial information on drug related deaths and they will both be quoted in this report with data relating to the South East. However, a new approach to such analysis is undertaken here as specified in the subsequent methodology section.

⁵ Deaths related to drug poisoning in England and Wales, 2008, <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=11695>, 26 August 2009

Methodology

This report looks at drug and alcohol related deaths in the South East, one of the biggest areas in England with over 8 million total population⁶ and close to 25 thousand people in drug and alcohol treatment in 2008⁷. It will present detailed statistical analysis of people who are resident and in treatment for drug misuse in the South East.

The information about the population accessing drug treatment programmes is currently being gathered by the National Treatment Agency (NTA) through the National Drug Treatment Monitoring System (NDTMS).⁸

The 'in treatment' group captured on NDTMS offers a valuable insight into the nature of drug use, structured treatments and the information about treatment outcomes, including whether the client has died. The data has been gathered for all in treatment drug and alcohol⁹ users in the period 2005-2009 that had the discharge code 'died'. Due to sensitivity of under 15's data and the rarity of very young person's deaths while in structured treatment, the report will only be looking at the data for the age group of 15 years old and over.

For the purpose of this analysis the clients have been selected on the basis of their final treatment episode. One exception was made for the calculation of the length of clients' contact with treatment services, where the very first episodes were selected within the given time period and corresponding triage dates were compared to the discharge dates of the final treatment episodes.

The age at death has been calculated on the basis of the final treatment episode of the client, while the age at first triage was calculated using the first treatment episode in the period of 2005-2009, as recorded on the NDTMS. Both these numerical variables are assumed to be normally distributed.

Roughly 200 duplicates in the data have been excluded from the analysis. 20 additional records have been excluded due to the fact that clients with the same attributors accessed treatments after the coded date of death. Numbers of 5 and under have been suppressed.

Limitations

The analysis reflects users in structured treatment. It will therefore have no information on the part of the population at risk (drug users) who are not in structured treatment or have never accessed any treatment.

There is also a small risk of delays in data transfers which could mean that a small percentage of clients that may have died can possibly be coded as 'dropped out' if the agency did not receive the notification of their death.

⁶ Office for National Statistics, Mid-2008 Population Estimates

⁷ NDTMS extract for South East, 12 August 2010

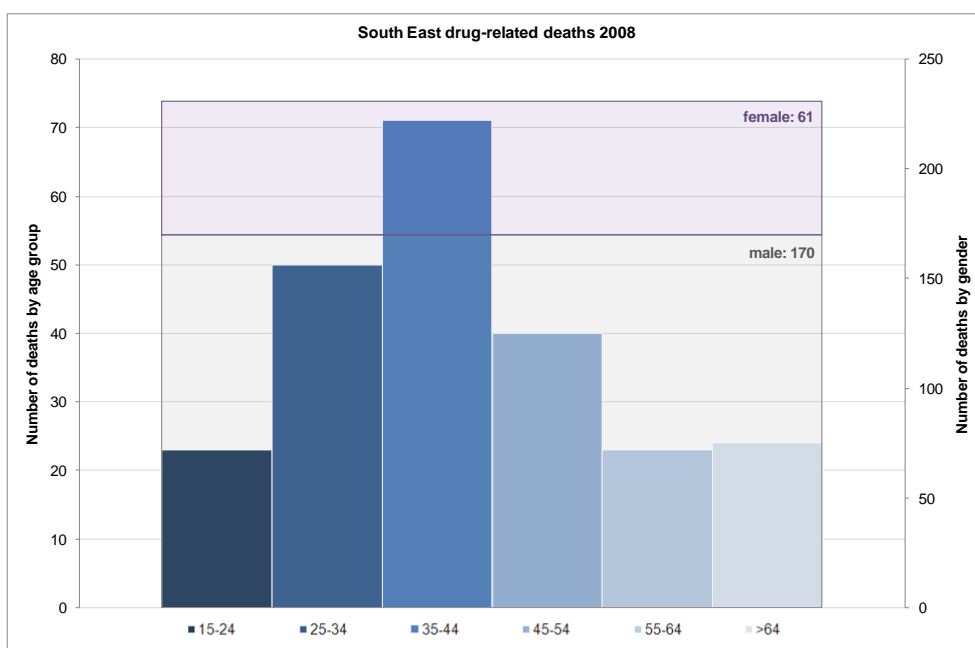
⁸ Using the June 2010 frozen data set, data extracted 12 August 2010

⁹ It became mandatory to collect data on clients reporting alcohol as their primary drug from 1st April 2008.

Drug and alcohol related deaths in the South East between 2004 and 2009

South East DRDs background information

According to the 2010 Annual Coroner's Report¹⁰ there were 258 drug-related deaths (DRDs¹¹) in the South East in 2009, which constitutes an increase of 11% on the 231 figure quoted for 2008. This is the second year on year increase (5% increase was noted for 2008 based on 220 deaths in 2007). By contrast the national data noted np-SAD decrease of 3.2% from 1,539 in 2007 down to 1,490 in 2008 followed by increase in 2009 back to the levels from 2007. By demographic structure of the data 74% of drug-related deaths were amongst men and the highest proportions of cases fell into the 35-44 age group, as presented on chart 2 below.



Source: *Drug-related deaths in the UK, Annual Report 2009*, St George's University of London, UK, September 2009

St George's University research shows that Brighton & Hove in the South East is one of the three areas with highest rates of DRDs per 100,000 population aged 16 and over (annual death rate per 100,000 population increased from 20.7 in 2008 to 23.6 in 2009). The area did not seem to have noted much change compared to the previous year. None of the other South East areas reported significant changes in the DRDs rates in the same periods either.

The annual coroners' report for the South East reports on all deaths in which any illicit drug was implicated, as stated in coroner's inquest. It excludes alcohol-related deaths unless another drug was involved alongside alcohol.

A slightly larger number of deaths is reported using the ONS deaths annual dataset set in comparison to the coroners' report total (see table 2). The ONS deaths annual data set can

¹⁰ *Drug-related deaths in the UK, Annual Report 2010*, St George's University of London, UK, August 2010, reporting data for the whole year 2009

¹¹ See the "Glossary" section of the report for definitions

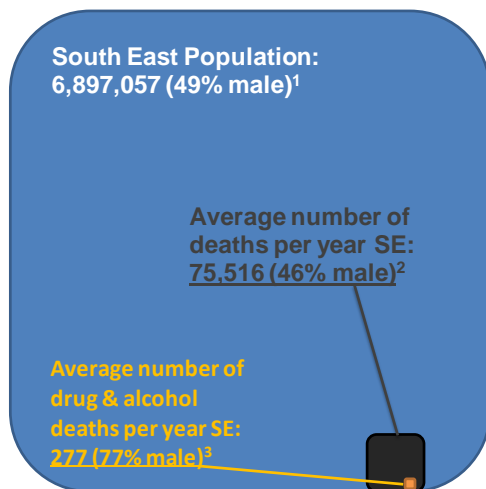
be used to look at both drug- and alcohol-related deaths. The underlying causes of deaths are defined based on the International Classification of Diseases (ICD) version 10, including mental and behavioural disorders, as well as poisonings with or without intent caused by drug and/ or alcohol use (see table 1 in annex F for ICD-10 codes definitions)

How big of a problem are drug and alcohol related deaths in the South East?

While drug- and alcohol-related deaths directly affect less than 0.5% of the population, it is an issue worth tackling as the deaths are largely preventable, should the right intervention(s) be provided to each individual at the right time.

This view is supported by the conclusions of the EMCD 2009 report, which states: “*Drug use is one of the major causes of health problems and death among young people in Europe (...) between 10% and 23% of mortality among those aged 15 to 49 could be attributed to opioid use. (...) UK has the 6th highest mortality rate due to drug induced deaths (close to 50 per million).*”¹²

Chart 3: South East data, age 15+ population midyear estimates 2008



Sources:

¹ Office for National Statistics, Mid-2008 Population Estimates;

² NCHOD all cause mortality data 1993-2008;

³ ONS annual deaths data.

Age at death distribution by gender

The majority (77%) of SE drug and alcohol related deaths occurred amongst men. This constitutes a disproportionately high percentage when compared to both the South East 15+ population and the 2004/07 average number of all deaths composition by gender (49% and 46% respectively).

¹² *The State of the Drugs Problem in Europe Annual Report 2009*, European Monitoring Centre for Drugs and Drug addiction, 2009

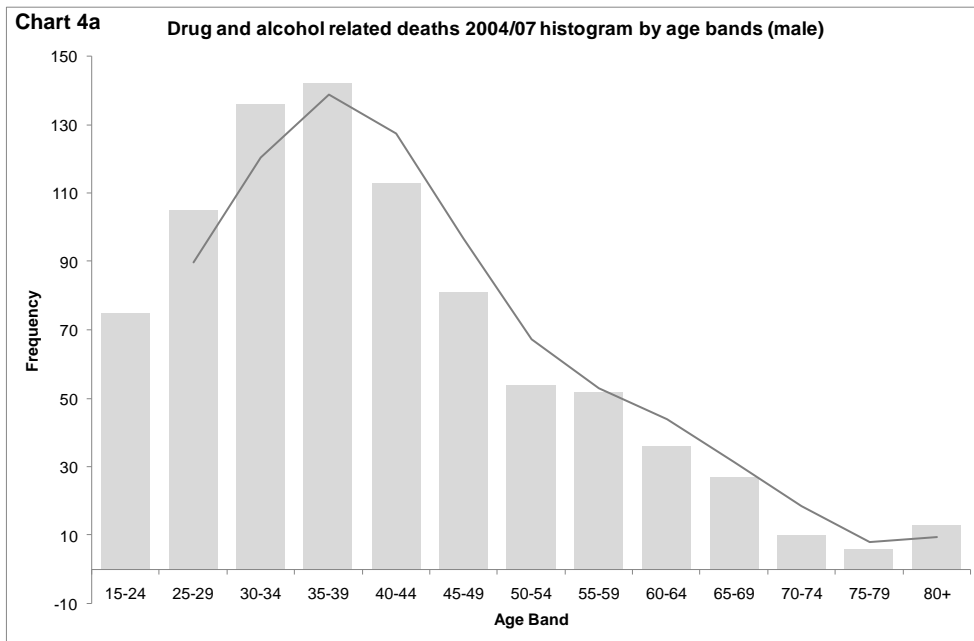
Table 2: Deaths in the South East age 15+, 2004-2008

South East 15+ population mid year 2008 estimate: 6,897,057 (49% male)

	2004	2005	2006	2007	2008*	Average 04/07
All Deaths (NCHOD)	76,202	76,306	74,902	74,653	75,340	75,516
% male	47%	46%	46%	47%	47%	46%
Drug and alcohol related deaths (ONS)	273	261	293	280	153	277
% male	77%	77%	77%	77%	71%	77%

Sources: Office for National Statistics and NCHOD
 *incomplete data, 2008 data excluded from averages calculation

Drug- and alcohol- related deaths are one of the aspects in which different trends can be observed for men and women. Therefore the data needs to be split by gender. Charts 4a and 4b represent 5 year age band splits for men and women based on the ONS cumulative data for 2004/07. According to ONS a total of 850 men and 257 women died in that period with drug or alcohol related underlying cause of death.



Source: ONS annual deaths data, drug and alcohol related deaths 2004/07

The chart for men shows the highest number of deaths in the age group 35-39. The median age of deaths for men was 38 years. Close to 90% of deaths were amongst men under 60 years old, nearly 60% of cases were between 25 and 44 years old and almost 9% were young men of 15-24 (see annex A for more figures).

There is substantially less data to analyse on drug-related deaths amongst women and it is therefore more difficult to pinpoint specific trends. Chart 4b shows that for women drug-related deaths seem to be occurring similarly often across all the age breaks. The median age of death amongst women was 42.

Women seem to be dying on average 4 years later than men. Just over 80% of female deaths were less than 60 years old and 45% between 25 and 44. Close to 11% of all female

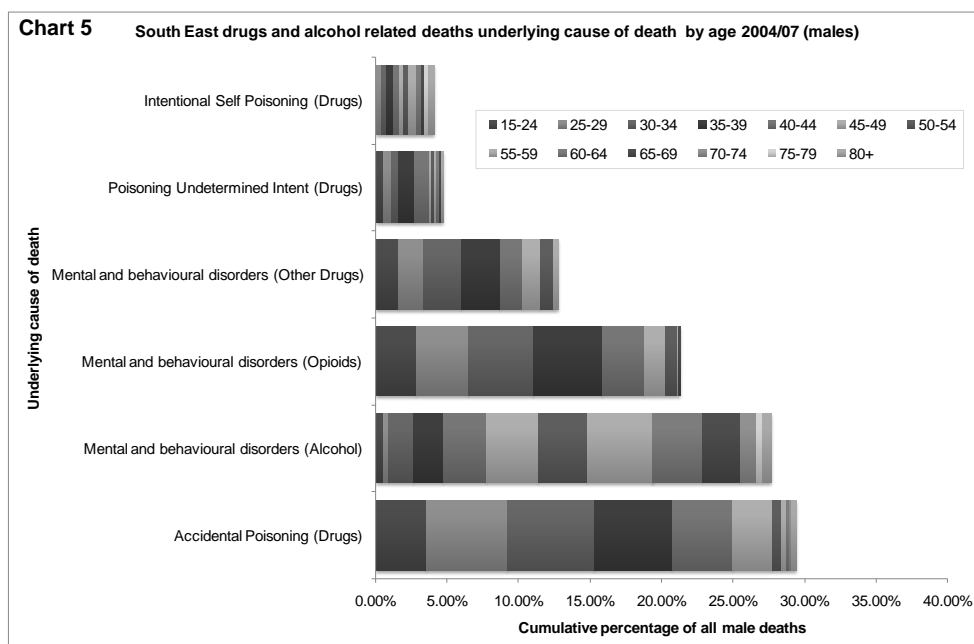
deaths were noted in 15-24 age group (see annex A). Almost 20% of female deaths are in the age group of over 60 – this compares to only 10% for males in the same age group.



Source: ONS annual deaths data, drug and alcohol related deaths 2004/07

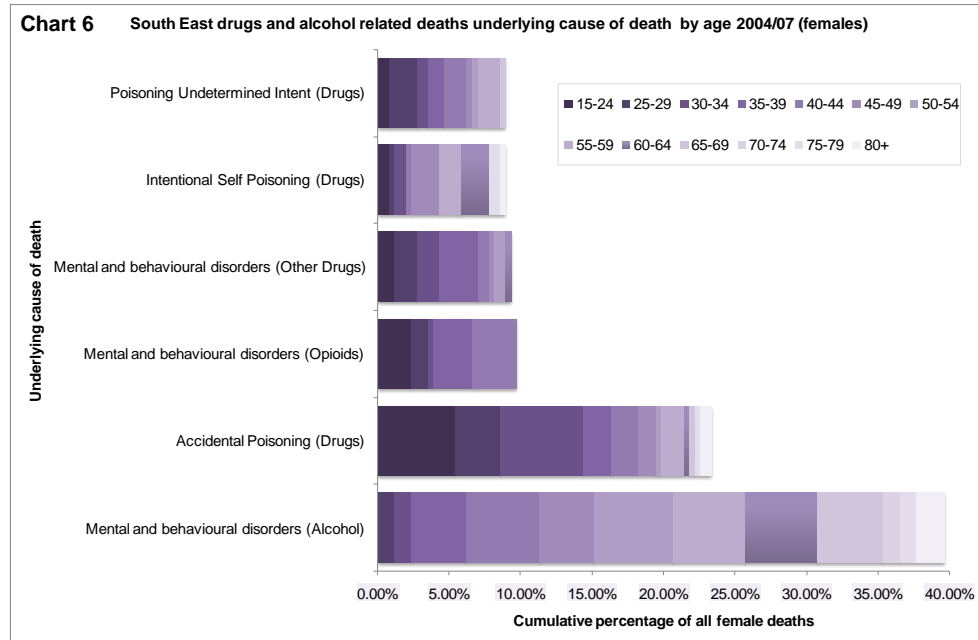
Underlying cause of death by gender and age at death

Chart 5 shows that accidental poisonings with drugs constitute almost 30% of all male DRDs and are more prominent among men under 50 years old. Mental and behavioural disorders due to misuse of alcohol and opioids are the next two biggest groups with 28 and 21 percent of male drug and alcohol related deaths respectively (see annex A). In the 35-39 age group the two main causes of death were accidental poisoning with drugs and mental and behavioural disorders due to opioid use.



Source: ONS annual deaths data, drug and alcohol related deaths 2004/07

For women (chart 6) the causality of deaths looks slightly different with mental and behavioural disorders related to alcohol constituting close to 40% of all the cases. This includes mostly 30 to 65 year old women with a relatively smaller proportion of younger and older women. The second highest cause of DRDs is accidental poisoning with drugs (23%), mostly amongst younger women under 35 years old. It also seems women are twice more likely than men to die of intentional self poisoning as well as poisoning of undetermined intent (under 5% each for men vs. close to 9% each for women).



Source: ONS annual deaths data, drug and alcohol related deaths 2004/07

This seems to suggest that drug-related deaths among women are more strongly linked to alcohol misuse, while male deaths are more often drug related, with a clear connection to opioids. This also reflects differently in the patterns of age at death, where accidental poisonings by drugs occur more often in younger people, who could have less experience and knowledge about the risks associated with drug overdose. Alcohol on the other hand does not necessarily cause deaths at the very early stages of misuse, but rather later in life, with roughly three quarters of alcohol-related deaths occurring in the 40-69 age group.

The above analysis looks at the age at death alone. It does not take into account how long the person was a user and whether a specific drug can be related to a premature mortality. Other NHS studies show that when users mix heroin and alcohol it can potentially lead to an earlier death¹³. "Alcohol was the only accompanying substance associated with lower heroin blood levels. Where alcohol was detected, levels were between 20-50% lower, suggesting that concurrent alcohol use reduces the lethal heroin overdose threshold by as much as half". A National Treatment Agency for Substance Misuse study has also found that over 80% of methadone-related deaths involved one or more other drugs, most often diazepam, alcohol or morphine.

¹³ Does the combined use of heroin or methadone and other substances increase the risk of overdose? NHS, National Treatment Agency for Substance Misuse, February 2007

Deaths among clients resident and in treatment in the South East 2005/2009

The next stage of this analysis will look at the data collected in the National Drug Treatment Monitoring System (NDTMS) on all clients resident and in structured treatment in the South East of England.

In treatment - population characteristics

The NDTMS data shows a sharp increase in numbers of clients in structured treatment year on year for the period of 2005-09. This trend is being closely followed by the increase in the numbers of clients in effective treatment, i.e. retained in treatment for at least 12 weeks or discharged in a planned way. Well over three quarters of all clients are retained in effective treatment every year (table 3). The majority of clients are young white men reporting opiates as their primary drug.¹⁴

Table 3: South East 15+ clients in treatment 2005/09

Treatment period	Numbers in treatment	Percent male	Numbers in effective treatment	Percent in effective treatment	Problematic Drug Users	Percent PDUs
2005	13,366	66.94%	10,358	77.50%	5,904	44.17%
2006	15,058	67.34%	11,948	79.35%	6,844	45.45%
2007	18,558	68.26%	15,468	83.35%	8,567	46.16%
2008	24,820	68.17%	21,286	85.76%	11,017	44.39%
2009	35,346	69.26%	29,373	83.10%	15,957	45.15%
2005/09*	71,688	68.58%	53881	75.16%	25,920	36.16%

Source: NDTMS June 2010 data set; extract: 12 August 2010 * Excluding duplicates from different year periods (clients that were in treatment in more than one of the presented year periods)

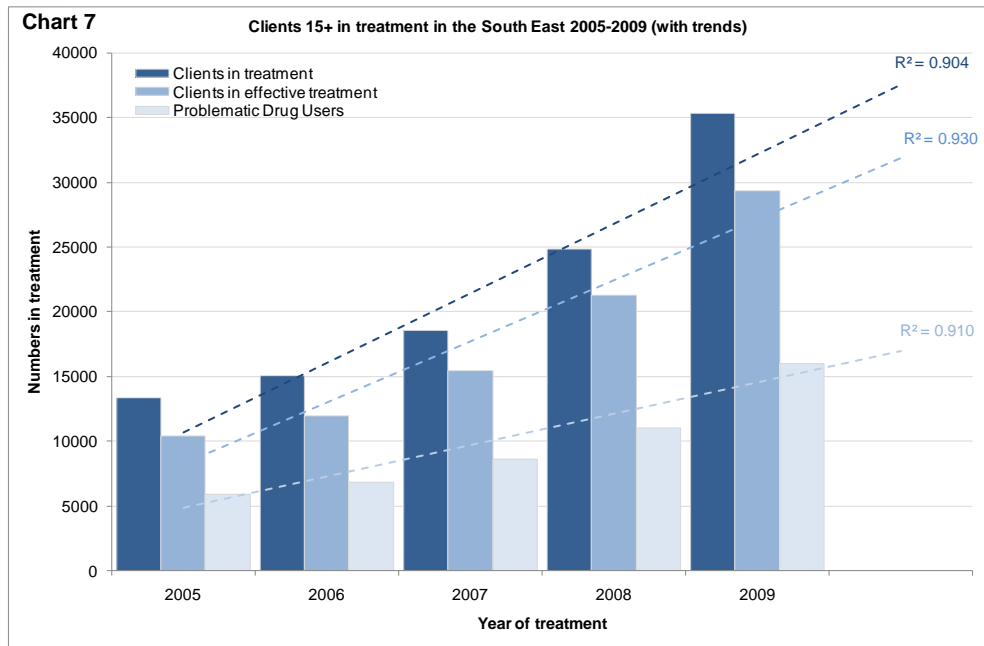
Non problematic drug users seem to spend less time in treatment than PDUs who are generally retained in treatment for more than one year. This is illustrated by the fact that even though the average percentage of PDUs each year is around 45%, the overall percentage of PDUs in the years 2005/09 comes down to 36% due to cleaning of records that would otherwise be double-counted.

Chart 7 shows that all three trends (clients in treatment, clients in effective treatment and problematic drug users) are on the increase year on year between 2005 and 2009. Based on the data in table 3 as well as the 2008 midyear population estimates for the South East (6,897,057 aged 15 and over) a calculation of a crude rate of engaging people into treatment shows an increase from 1.9 in 2005 to 5.1 in 2009 (per 1000 population).

- ↳ Engagement into treatment crude rate calculations
- ↳ SE 2009: $(35,346 / 6,897,057) * 1000 = 5.1$
- ↳ SE 2005: $(13,366 / 6,897,057) * 1000 = 1.9$



¹⁴ For full analysis of NDTMS in treatment data in the South East refer to *DTMU Analysis, NDTMS Trend*, <http://www.dtmu.org.uk/reports-resources/ndtms-trends-2004-05-to-2007-08>



Source: NDTMS June 2010 data set; extract: 12 August 2010

Annual trends

The numbers of deaths amongst those in treatment have increased (table 4), though this is in line with the overall increase in the numbers in treatment (table 3). Over 70% of deaths in the period of 2005-2009 were amongst men and the average age at death in the South East was 43 years. Over 54% of the deaths were amongst problematic drug users, which is almost 20% higher than the percentage of PDUs in the treated population.

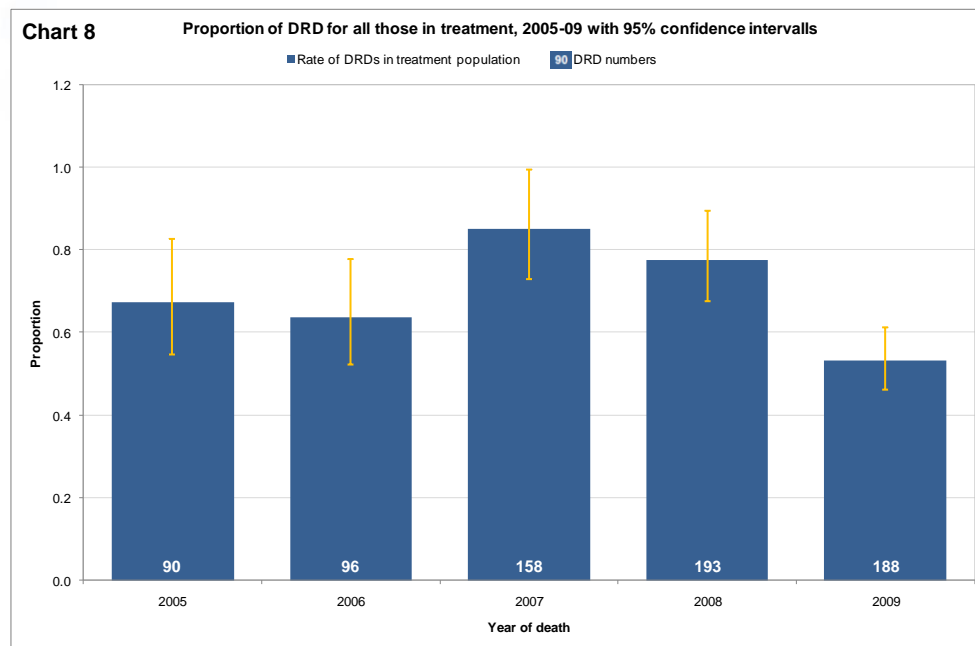
Table 4: South East 15+ DRDs 2005/09 by year of death

Split by demographics and type of treatment

Year of death	DRD	% Male	Average age at death	% PDU	% In effective treatment
2005	90	73.3%	43	57.8%	74.4%
2006	96	64.6%	40	56.3%	70.8%
2007	158	75.9%	42	55.7%	66.5%
2008	193	72.0%	44	56.0%	73.1%
2009	188	68.1%	44	50.0%	78.7%
All years	725	71.0%	43	54.6%	73.0%

Source: SE NDTMS June 2010 data set, extract: August 2010

73% of clients who died were retained by the services for the period of at least 12 weeks, i.e. were classified as being in effective treatment. This percentage is slightly lower than for the 'in treatment' population in general where 75% of clients are in effective treatment. Other long-term retainment thresholds may however be more significant in relation to DRDs, as analysis in the next section will show.



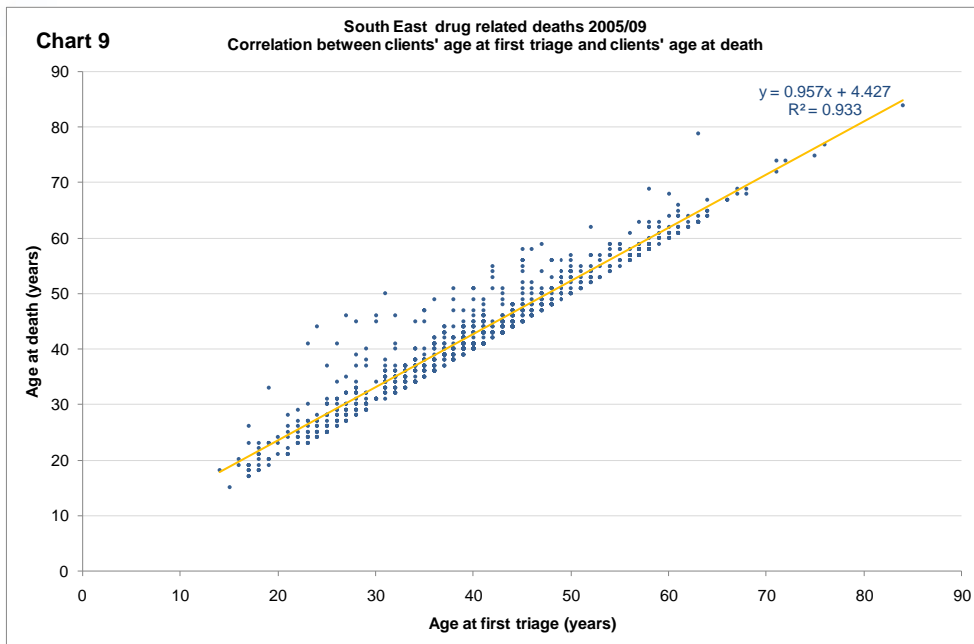
Source: NDTMS June 2010 data set, extract: August 2010

The five year trends of data for the South East (chart 8) show a steady increase in the numbers of DRD year on year in the period from 2005 until 2008. However, the overall proportion of deaths to those in treatment has not changed significantly as can be demonstrated by comparing the confidence intervals for the same time period. The proportion of DRDs has fluctuated and only the proportion of 2009 deaths was statistically lower than 2008 (at 95% CI) (see chart 8). Another year worth of data is needed to determine whether this change is stable.

The gender composition, percentage of PDU and of clients in effective treatment fluctuated slightly between 2005 and 2009 but there has been very little change in these overall (see table 4).

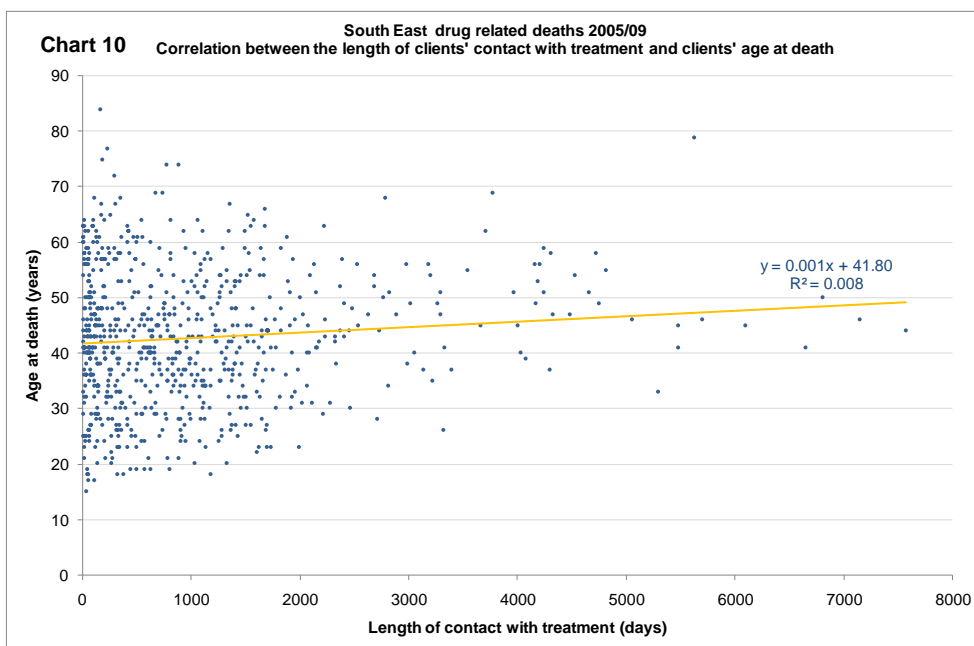
DRDs by age at first triage and the length of contact with treatment

Chart 9 shows a strong positive correlation between the age of first treatment triage data and the age at death among the clients in treatment in the South East, indicating that about 93% of the observed age at death is related to the age at first triage, i.e. in most cases the age at death will be only slightly higher than the age at first triage, if not exactly the same. The remaining 7% is influenced by other factors. There are outliers on the chart for whom there will be a greater difference between the age at death and the age at first triage. The correlation seems strongest for clients who stated alcohol as their primary drug and other non-PDU clients. The relation decreases when looking at only male PDU DRDs but it is still fairly strong. This is shown in by charts in annex C.



Source: NDTMS June 2010 data set, extract: August 2010

The above may suggest that people who access treatment later in their drug misuse habit, may leave it too late to benefit fully from structured treatment interventions and die relatively shortly after accessing the treatment. It is therefore crucial to reach the people with drug and alcohol addictions earlier in their misusing careers as structured treatment interventions seem to be having an impact in reducing the numbers of deaths. Further analysis of underlying causes of these deaths would be advisable, but is not possible here due to the fact this information is not collected by the NDTMS. With the proportion of deaths recorded on NDTMS that are directly drug related being unknown, some care should be taken in drawing conclusions from the data without further study.



Source: NDTMS June 2010 data set, extract: August 2010

The length of contact with treatment, calculated as the number of days from the first triage date until discharge 'died', can provide further insight. When pulled into a chart along with the age at death, there does not seem to be any strong correlation between the length the clients were in contact with treatment and the age they died at. However, deaths at all ages seem to be centred close to the vertical axis (y) and the longer the length of contact with treatment services, the fewer deaths there are (see chart 10).

Even though 73% of clients on average get retained in effective treatment, 37% of all deaths occur within the first year since original triage date and 77% within the first three years.¹⁵ The clients do not necessarily stay in the structured treatment system for the duration, but rather have multiple treatment journeys and/or episodes.

DRDs analysis by drug type

Different types of drugs are associated with different levels of harm for the users. In relation to drug related deaths it would be beneficial to be able to pinpoint whether certain drugs are more likely to cause deaths and whether certain behaviours increase or decrease specific drug related risk.

It is reported that 69% of all DRDs in UK in 2008 can be attributed to opioids either alone or in combination with other drugs.¹⁶ When looking at the South East NDTMS data (table 5) a similar picture is apparent. Amongst all the deaths in 2005-09, almost 56% were PDUs. If we exclude all the clients who stated alcohol as their primary substance from the overall total of deaths the percentage of PDUs increases up to over 90%, with over 70% reporting heroin as primary substance.

Table 5: South East 15+ DRDs 2005/09 by type of primary drug
South East in treatment/ residents population, demographics and type of treatment

	Number of DRDs	Average age at death	PDU	PDU (alcohol excluded)	In effective treatment
Heroin	310	40	42.8%	70.6%	35.7%
Alcohol	286	47	0.0%	N/A	23.2%
Methadone	48	45	6.6%	10.9%	6.5%
Other Opiates	19	43	2.6%	4.3%	2.5%
Cocaine (excluding Crack)	18	27	0.4%	0.7%	0.8%
Cannabis	13	34	0.6%	0.9%	1.2%
Amphetamines (excluding Ecstasy)	9	48	0.1%	0.2%	1.2%
Crack	8	28	1.1%	1.8%	0.7%
Benzodiazepines	6	46	0.3%	0.5%	0.4%
Other Drugs	*	39	0.1%	0.2%	0.7%
Misuse Free	*	44	0.0%	0.0%	0.0%
Grand Total	725	43	54.6%	90.2%	73.0%

Source: NDTMS June 2010 data set, extract: August 2010

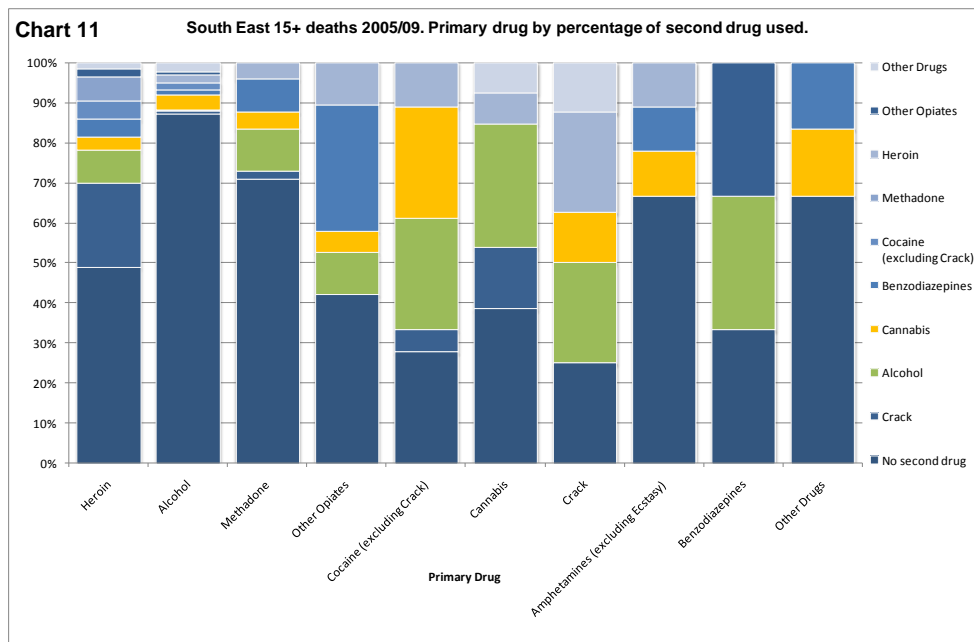
¹⁵ See Annex D for more detailed figures

¹⁶ *Drug-related deaths in the UK*, Annual report 2009, St George's University of London, National Programme on Substance Abuse Deaths (np-SAD) International Centre for Drug Policy (ICDP), 2009

43% of the 725 DRD in the South East occurred amongst clients stating their primary drug as heroin. A similarly high percentage (39%) is noted for users with the main drug stated to be alcohol. All the other drugs seem to be involved in proportionately fewer deaths amongst clients in structured treatment, with methadone related to almost 7% of deaths and the other drugs related to 1 or 2 percent of cases. Interestingly some of the deaths occurred amongst misuse free clients.

Table 5 indicates that a vast majority of deaths occur amongst clients reporting their primary drug as opiates or alcohol which is a reflection of the overall structure of the population in treatment.

The NDTMS holds information on up to three drugs used by the clients accessing structured treatment and therefore the relation between the death and type of drug used can be looked at on several levels. There is some evidence that certain combinations of drugs prove to be more harmful than others, for example alcohol used with heroin lowers the threshold of overdose.¹⁷



Source: NDTMS June 2010 data set, extract: August 2010

Looking at the distribution of second drug against the main drug in table 6 close to 65% of clients have not volunteered a secondary substance at all. Out of the heroin users 21% were using crack as a secondary substance, 8% alcohol and 6% methadone with 4.5% for cocaine and benzodiazepines each. Half of primarily crack users also report using heroin or alcohol and further 12% combine it with cannabis. Primary Cocaine users have similar adjunctive drugs, but alcohol and cannabis are more prominent in this group (27% each). Amongst other opiates users, 32% admitted using those in combination with benzodiazepines and 20% with heroin or alcohol. Alcohol, methadone and amphetamines users seem less likely to report using a secondary substance (less than 40%). However, 13% of alcohol clients were admitting secondary drug use, mostly cannabis or heroin.

¹⁷ Does the combined use of heroin or methadone and other substances increase the risk of overdose? NHS, National Treatment Agency for Substance Misuse, February 2007

Table 6: South East 15+ deaths 2005/09 by main drug
 Split by percentage of second drug used, if present

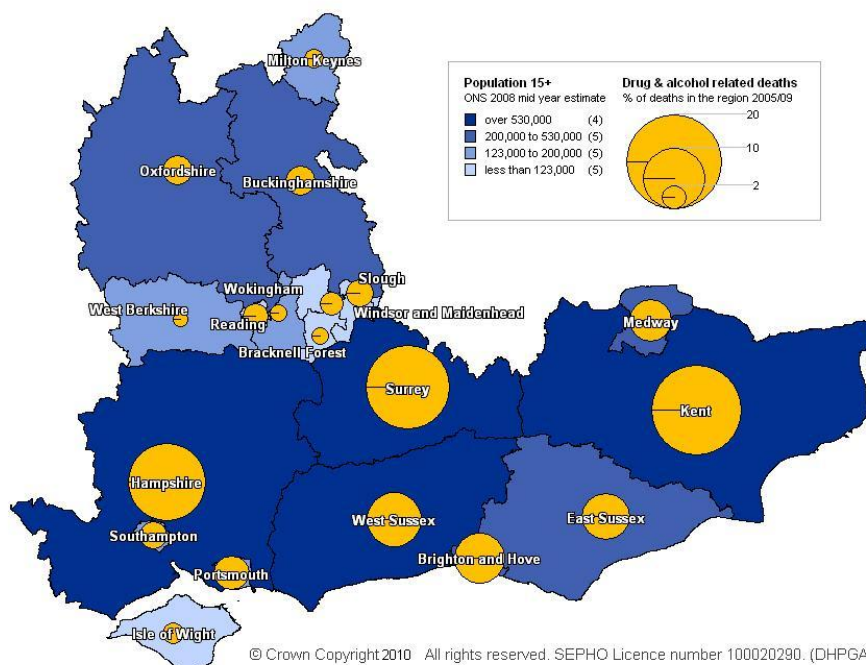
Main Drug	Second Drug									
	No second drug	Crack	Alcohol	Cannabis	Benzodiazepines	Cocaine (excluding Crack)	Methadone	Heroin	Other Opiates	Other Drugs
Heroin	48.9%	21.0%	8.1%	3.2%	4.5%	4.5%	6.1%	0.0%	1.9%	1.6%
Alcohol	87.1%	0.7%	0.3%	3.8%	1.0%	1.7%	0.0%	2.1%	0.7%	2.4%
Methadone	70.8%	2.1%	10.4%	4.2%	8.3%	0.0%	0.0%	4.2%	0.0%	0.0%
Other Opiates	42.1%	0.0%	10.5%	5.3%	31.6%	0.0%	0.0%	10.5%	0.0%	0.0%
Cocaine (excluding Crack)	27.8%	5.6%	27.8%	27.8%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%
Cannabis	38.5%	15.4%	30.8%	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	7.7%
Crack	25.0%	0.0%	25.0%	12.5%	0.0%	0.0%	0.0%	25.0%	0.0%	12.5%
Amphetamines (excluding Ecstasy)	66.7%	0.0%	0.0%	11.1%	11.1%	0.0%	0.0%	11.1%	0.0%	0.0%
Benzodiazepines	33.3%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%
Other Drugs	66.7%	0.0%	0.0%	16.7%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Grand Total	64.5%	9.8%	6.4%	4.4%	4.0%	2.6%	2.6%	2.2%	1.4%	1.9%

Source: NDTMS June 2010 data set, extract: August 2010

Crack, alcohol and cannabis are most likely to be the secondary drug of choice amongst clients with poly-drug problems (58%). Crack and cocaine users have stated a secondary drug more often than other clients, most commonly alcohol, cannabis or heroin. Overall 37% of all clients who died in 2005-09 and reported usage of more than one drug were using some sort of combination of different opioids and/or crack. Further 17% were using a combination of any of the opioids and/or crack and alcohol.

Geographical analysis by DAAT area

South East Drug and Alcohol Related Deaths by DAAT area



The geographies of Drug and Alcohol Action Teams are coterminous with the Local Authorities.¹⁸ The map above represents the 19 DAAT areas in the South East. It is showing each DAAT's population size (the darker the area, the larger its population) and percentages of all South East DRDs that were allocated within the DAAT's boundaries (the larger the orange circle the higher the percentage).

Kent, Surrey and Hampshire DAATs are the highest contributors to the numbers of deaths in the South East with 19%, 17% and 14% of SE deaths respectively occurring in these areas (see data table in annex E). The next four largest contributors were West Sussex, Brighton and Hove, East Sussex and Medway with over 5% each. This spread of deaths corresponds with the population size in the DAAT areas – the largest populations are in most cases accounting for more drug related deaths.

NDTMS data analysed here does not take into account the age demographics and deprivation differences between the DAATs.

South East population structure will not be homogenous between the local authority areas and therefore it is necessary to look at the age standardised rates. The annual SEPHO report represents directly standardised rates for persons in treatment in the South East as well as deaths in the area. It shows that East Sussex, Brighton and Hove, Southampton and Portsmouth, Medway and West Sussex have a significantly higher death rate (DSR) per 100,00 population than the South East average, while Hampshire, Surrey, Oxfordshire, Buckinghamshire, Bracknell Forest, Slough, West Berkshire and Wokingham are well below the average for the area.¹⁹

In Brighton and Hove, Southampton and Portsmouth DAATs the high death rates are linked with high 'in treatment' rates. Whereas Hampshire, Surrey, Buckinghamshire, Bracknell and Forest, West Berkshire and Wokingham relatively low deaths rates are linked with relatively low 'in treatment' rates (below South East average). However for Oxfordshire above average 'in treatment' rates do not translate into high death rates (below SE average). A similar relationship can be noticed for Slough. In Reading and Isle of Wight – high rates 'in treatment' are accompanied by death rates not significantly different from SE average. By contrast estimated numbers of PDUs in South East are highest in Kent, Hampshire Oxfordshire and Surrey.²⁰

Comparison of crude rates based on NDTMS data with the directly age standardised rates of deaths as presented in the St George's report paints the following picture: Brighton and Hove has one of the highest death rates in the country and the highest in the South East. The next four areas with the highest drug related deaths rates in the South East are Southampton, Portsmouth, East Sussex and Isle of Wight (see more details in annex E).

¹⁸ ONS geographies, <http://www.ons.gov.uk/about-statistics/geography/products/geog-products-area/names-codes/administrative/index.html>

¹⁹ For more information and graphs see *Substance Misuse and Drug Treatment in the South East 2007/08*, South East Public Health Observatory, March 2009

²⁰ *Estimates of the prevalence of opiate use and/or crack cocaine use (2008/09) South East Region*, The Centre for Drug Misuse Research, University of Glasgow

Recommended Reading

Deaths related to drug poisoning in England and Wales, 2008, Office for National Statistics, Statistical Bulletin Report, 26 August 2009

Deaths related to drug poisoning in England and Wales, 2009, Office for National Statistics, Statistical Bulletin Report, 24 August 2010

Does the combined use of heroin or methadone and other substances increase the risk of overdose? NHS, National Treatment Agency for Substance Misuse, February 2007

Drug-related deaths: setting up a local review process, NTA, January 2011

Drug Treatment in 2009-10, NTA, October 2010

Drug-Related Deaths in the North East, North East Public Health Observatory, Occasional Paper No. 25, July 2006

Drug-related deaths in the UK, Annual Reports 2005 - 2010, St George's University of London UK, National Programme on Substance Abuse Deaths (np-SAD) International Centre for Drug Policy (ICDP)

DTMU Analysis, NDTMS Trends, Issue one, October 2009, <http://www.dtmu.org.uk>

Estimates of the prevalence of opiate use and/or crack cocaine use (2008/09) South East Region, The Centre for Drug Misuse Research, University of Glasgow

HRB Trends Series 8, *Trends in deaths among users in Ireland from traumatic and medical causes, 1998 to 2005*, published in 2009 by Health Research Board

National Centre for Health Outcomes Development (NCHOD) mortality statistics at <http://www.nchod.nhs.uk/>

Reducing drug-related deaths, Guidance for drug treatment providers, National Treatment Agency for Substance Misuse, 2004

The State of the Drugs Problem in Europe Annual Report 2009, European Monitoring Centre for Drugs and Drug addiction, 2009

Glossary

Alcohol related deaths based on ICD-10 codes include:

The codes include: disorders (F10), Accidental and intentional poisonings (X45, 65, T506) and poisonings with unknown intent (Y15).

Client (NDTMS)

A person for whom there is treatment information recorded in the NDTMS Core Data Set.

Drug induced deaths (EMCDDA)

All those deaths that are directly caused (overdoses) by the consumption of one or more drugs, of which at least one is an illicit drug.

Drug poisoning deaths

Deaths that are directly a result of an overdose of drugs which can be intentional, unintentional or the intent can be unknown.

Drug-related deaths (St George's University)

Drug-related deaths reported by Coroners in England, Wales, Northern Ireland, Guernsey, Jersey and the Isle of Man; Police forces in Scotland; & the Northern Ireland Statistics and Research Agency

Drug related deaths (DRDs) based on ICD-10 codes using the EMCDDA definition

The codes include: disorders (F11, 12, 14-16, 19), Accidental and intentional poisonings (X41, 42, 61, 62, T40, 436) and poisonings with unknown intent (Y11, 12).

ICD-10 codes

International Statistical Classification of Diseases and Related Health Problems, 10th Revision, WHO, <http://apps.who.int/classifications/apps/icd/icd10online>

NDTMS client in treatment in South East in a given year

A client that has at least one episode of treatment in the given financial year. If the client has several episodes of treatment in the same year they are only being counted once for this year, however if they have an episode in more than one year they are being counted once for each of the years they have accessed treatments in.

NDTMS Core Data Set

All drug treatment agencies must provide a basic level of information to the NDTMS on their activities each month – known as the Core Data Set. <http://www.nta.nhs.uk/core-data-set.aspx>

NDTMS effective treatment

A client is in effective treatment if they are retained in treatment for at least 12 weeks or if they are discharged in a planned way.

NDTMS Problematic Drug User (PDU)

A client presenting with opiates and/ or crack cocaine as their main, second or third drug (excluding those with alcohol as main drug)

Annex A

ONS mortality data for over 15 year olds; Age band by underlying cause of death percentage tables; extract from 2004, 2005, 2006 and 2007 deaths tables July 2010.

Male	Mental and behavioural disorders			Accidental Poisoning (Drugs)	Intentional Self Poisoning (Drugs)	Poisoning Undetermined Intent (Drugs)	All causes
	Alcohol	Opioids	Other				
15-24	0.47%	2.82%	1.53%	3.53%	0.00%	0.47%	8.82%
25-29	0.35%	3.65%	1.76%	5.65%	0.35%	0.59%	12.35%
30-34	1.76%	4.59%	2.71%	6.12%	0.35%	0.47%	16.00%
35-39	2.12%	4.82%	2.71%	5.41%	0.47%	1.18%	16.71%
40-44	3.06%	2.94%	1.53%	4.24%	0.47%	1.06%	13.29%
45-49	3.65%	1.41%	1.29%	2.82%	0.24%	0.12%	9.53%
50-54	3.41%	0.82%	0.94%	0.59%	0.35%	0.24%	6.35%
55-59	4.59%	0.12%	0.35%	0.35%	0.59%	0.12%	6.12%
60-64	3.41%	0.00%	0.00%	0.24%	0.35%	0.24%	4.24%
65-69	2.71%	0.12%	0.00%	0.00%	0.24%	0.12%	3.18%
70-74	1.06%	0.00%	0.00%	0.12%	0.00%	0.00%	1.18%
75-79	0.47%	0.00%	0.00%	0.00%	0.24%	0.00%	0.71%
80+	0.59%	0.00%	0.00%	0.35%	0.47%	0.12%	1.53%
All ages	27.65%	21.29%	12.82%	29.41%	4.12%	4.71%	100.00%

Female	Mental and behavioural disorders			Accidental Poisoning (Drugs)	Intentional Self Poisoning (Drugs)	Poisoning Undetermined Intent (Drugs)	All causes
	Alcohol	Opioids	Other				
15-24	0.00%	2.33%	1.17%	5.45%	0.78%	0.78%	10.51%
25-29	1.17%	1.17%	1.56%	3.11%	0.39%	1.95%	9.34%
30-34	1.17%	0.39%	1.56%	5.84%	0.78%	0.78%	10.51%
35-39	3.89%	2.72%	2.72%	1.95%	0.00%	1.17%	12.45%
40-44	5.06%	3.11%	0.78%	1.95%	0.39%	1.56%	12.84%
45-49	3.89%	0.00%	0.39%	1.17%	1.95%	0.39%	7.78%
50-54	5.45%	0.00%	0.78%	0.39%	0.00%	0.39%	7.00%
55-59	5.06%	0.00%	0.00%	1.56%	1.56%	1.56%	9.73%
60-64	5.06%	0.00%	0.39%	0.39%	1.95%	0.00%	7.78%
65-69	4.67%	0.00%	0.00%	0.39%	0.00%	0.39%	5.45%
70-74	1.17%	0.00%	0.00%	0.00%	0.00%	0.00%	1.17%
75-79	1.17%	0.00%	0.00%	0.39%	0.78%	0.00%	2.33%
80+	1.95%	0.00%	0.00%	0.78%	0.39%	0.00%	3.11%
All ages	39.69%	9.73%	9.34%	23.35%	8.95%	8.95%	100.00%

Source: ONS deaths data 2004-2007, extract: July 2010

Annex B

Clients in treatment in South East 2005-2009; resident in South East. Percentages of clients by demographics and treatment specifics.

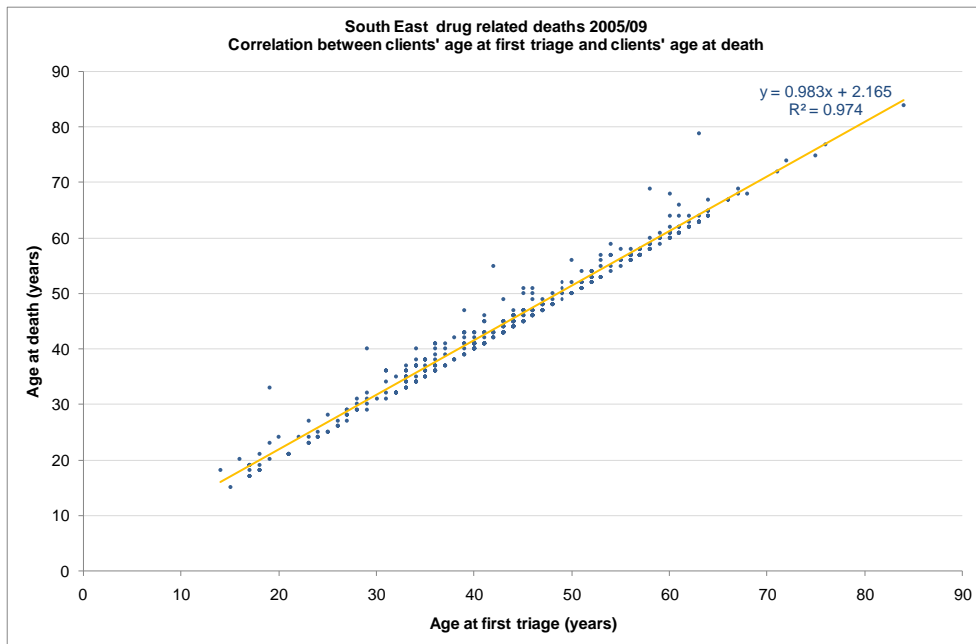
Drug and Alcohol Action Team		All	Male	In effective treatment	PDU	Average age at triage	DRDs
Bracknell Forest	J01B	959	67.3%	68.2%	26.2%	31	0.8%
Brighton and Hove	J10B	4015	69.0%	83.9%	48.5%	34	1.1%
Buckinghamshire	J07B	4036	69.4%	76.5%	29.4%	32	0.6%
East Sussex	J11B	3968	66.8%	81.0%	44.1%	30	1.2%
Hampshire	J15B	7854	67.7%	76.0%	34.7%	35	1.3%
Isle of Wight	J18B	1228	67.3%	84.1%	39.3%	29	1.0%
Kent	J13B	13720	68.6%	77.3%	29.9%	34	0.9%
Medway	J14B	2673	68.7%	74.3%	38.0%	34	1.3%
Milton Keynes	J08B	1500	70.4%	70.6%	50.5%	32	0.7%
Oxfordshire	J09B	5596	71.5%	72.2%	43.0%	33	0.4%
Portsmouth	J16B	2481	66.9%	69.7%	43.0%	36	1.0%
Reading	J02B	1459	70.3%	72.3%	67.6%	33	1.0%
Slough	J03B	1781	73.3%	71.9%	55.9%	33	0.9%
Southampton	J17B	2621	69.9%	71.9%	45.7%	35	0.7%
Surrey	J19B	9973	66.8%	71.1%	22.3%	36	1.2%
West Berkshire	J04B	827	69.0%	76.5%	41.4%	34	0.7%
West Sussex	J12B	5369	68.2%	73.2%	34.7%	36	1.2%
Windsor and Maidenhead	J05B	1129	70.6%	74.8%	32.2%	32	0.9%
Wokingham	J06B	499	68.9%	83.8%	50.9%	34	1.0%
South East DAATs		71688	68.6%	75.2%	36.2%	34	1.0%

Source: NDTMS South East June 2010 data set, extract: August 2010

Annex C

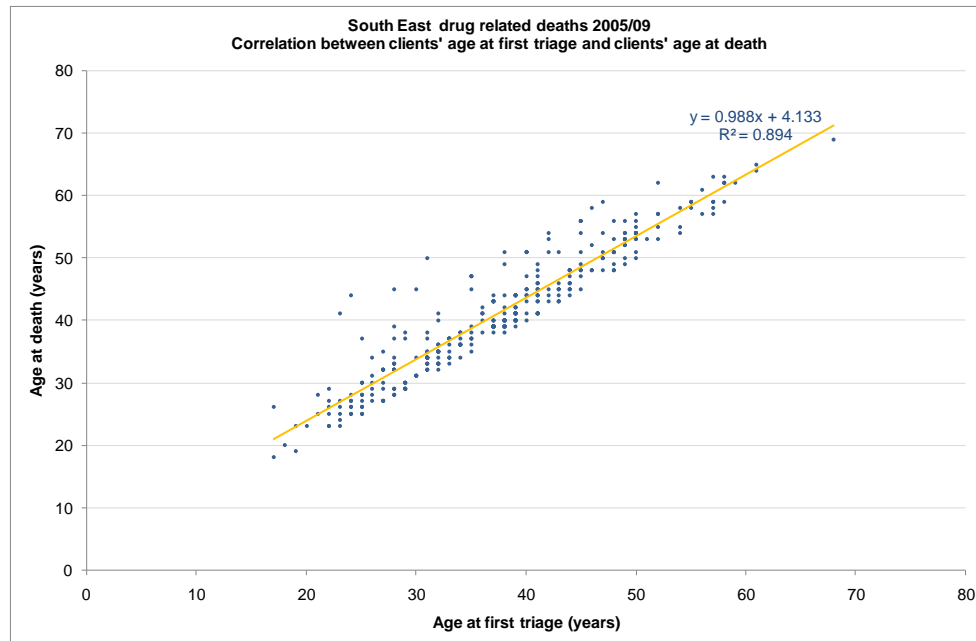
Correlation scatter plots for South East drug related deaths 2005/09 for two specific clients' sub-groups:

- Alcohol and other non-PDU clients



Source: NDTMS June 2010 data set, extract: August 2010

- Male PDU clients



Source: NDTMS June 2010 data set, extract: August 2010

Annex D

South East 15+ deaths 2005/09: percentages of clients who died split by the 5 year age band age of death and the number of full years they were in contact with treatment before death (full years are calculated by subtracting the date of death from the first triage date and reflects the full years the client was in contact with treatment but does not mean the client was in constant treatment for the whole of that time).

Contact with treatment (years)	Age at death (5 year age bands)											All ages
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	Over 65	
0	1.0%	1.9%	3.4%	3.9%	3.9%	6.5%	4.8%	2.6%	4.4%	2.9%	1.4%	36.7%
1	0.7%	0.7%	1.5%	1.2%	2.1%	3.2%	2.1%	1.1%	1.0%	1.4%	0.3%	15.2%
2	0.1%	0.8%	1.5%	1.2%	3.0%	2.2%	2.3%	1.4%	0.8%	0.6%	0.3%	14.3%
3	0.1%	0.4%	1.1%	1.4%	2.2%	1.8%	1.2%	2.1%	0.7%	0.1%	0.1%	11.3%
4	0.0%	0.6%	0.7%	1.1%	0.8%	1.9%	0.8%	0.6%	0.8%	0.6%	0.3%	8.1%
5	0.0%	0.1%	0.0%	0.8%	0.3%	0.8%	0.6%	0.7%	0.3%	0.1%	0.0%	3.7%
6	0.0%	0.0%	0.1%	0.3%	0.1%	0.8%	0.6%	0.1%	0.3%	0.1%	0.0%	2.5%
7	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.3%	0.6%	0.0%	0.0%	0.1%	1.4%
8	0.0%	0.0%	0.0%	0.0%	0.4%	0.1%	0.4%	0.3%	0.3%	0.0%	0.0%	1.5%
9	0.0%	0.0%	0.3%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.7%
10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%	0.0%	0.1%	0.1%	0.7%
11	0.0%	0.0%	0.0%	0.0%	0.3%	0.1%	0.3%	0.3%	0.6%	0.0%	0.0%	1.5%
12	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.1%	0.0%	0.0%	0.6%
13	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%	0.4%
14	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
15	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.1%	0.4%
16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
18	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.3%
19	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
20	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Total	1.9%	4.6%	8.8%	10.2%	13.2%	18.2%	14.6%	10.2%	9.5%	5.9%	2.8%	100.0%

Source: NDTMS South East June 2010 data set, extract: August 2010

Annex E

South East 15+ deaths of clients in treatment 2005/09: numbers and percentages by DAAT with population and demographics of the area.

DAAT name	DAAT code	Population		Deaths			
		15+	% Male	15+	% Male	% of SE deaths in treatment (total=725)	crude rate per 100,000 pop.
Bracknell Forest	J01B	92,911	49.2%	8	25.0%	1%	8.6
Brighton and Hove	J10B	218,127	49.0%	49	63.3%	7%	22.5
Buckinghamshire	J07B	398,766	48.4%	21	52.4%	3%	5.3
East Sussex	J11B	425,505	47.1%	45	73.3%	6%	10.6
Hampshire	J15B	1,060,001	48.5%	103	77.7%	14%	9.7
Isle of Wight	J18B	118,684	48.0%	13	92.3%	2%	11.0
Kent	J13B	1,153,004	48.1%	135	69.6%	19%	11.7
Medway	J14B	205,305	48.9%	38	71.1%	5%	18.5
Milton Keynes	J08B	185,342	50.0%	10	60.0%	1%	5.4
Oxfordshire	J09B	527,816	49.3%	21	76.2%	3%	4.0
Portsmouth	J16B	168,411	49.3%	25	80.0%	3%	14.8
Reading	J02B	121,023	51.2%	15	100.0%	2%	12.4
Slough	J03B	95,969	50.7%	17	70.6%	2%	17.7
Southampton	J17B	199,321	50.6%	17	82.4%	2%	8.5
Surrey	J19B	910,541	48.2%	125	68.0%	17%	13.7
West Berkshire	J04B	123,443	49.4%	6	83.3%	1%	4.9
West Sussex	J12B	647,054	47.6%	59	66.1%	8%	9.1
Windsor and Maidenhead	J05B	116,305	48.6%	11	100.0%	2%	9.5
Wokingham	J06B	129,529	49.1%	7	28.6%	1%	5.4
South East		6,897,057	48.5%	725	71.0%	100.0%	10.5

Source: NDTMS South East June 2010 data set, extract: August 2010

South East 15+ drug related deaths for 2009.

DAAT name	DRDs DSR per 100,000 pop.	DAAT name	DRDs DSR per 100,000 pop.
Bracknell Forest	1.1	Portsmouth	7.3
Brighton and Hove	22.6	Reading	1.7
Buckinghamshire	2.1	Slough	3.2
East Sussex	5.3	Southampton	9.3
Hampshire	3.9	Surrey	2.7
Isle of Wight	5.2	West Berkshire	0.8
Kent	3.9	West Sussex	0.8
Medway	1.0	Windsor and Maidenhead	0.0
Milton Keynes	-	Wokingham	0.8
Oxfordshire	3.3		

Source: Drug-related deaths in the UK, Annual Report 2010, St George's University of London, August 2010

Annex F

Table 1: ICD10 codes, Underlying cause of death, World Health Organisation

ICD-10 code	Description
F10	Mental and behavioural disorders due to use of alcohol
F11	Mental and behavioural disorders due to use of opioids
F12	Mental and behavioural disorders due to use of cannabinoids
F13	Mental and behavioural disorders due to use of sedatives or hypnotics
F14	Mental and behavioural disorders due to use of cocaine
F15	Mental and behavioural disorders due to use of other stimulants, including caffeine
F16	Mental and behavioural disorders due to use of hallucinogens
F19	Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances
T40	Poisoning by narcotics and psychodysleptics [hallucinogens]
T436	Poisoning by psychotropic drugs, not elsewhere classified; Psychostimulants with abuse potential
T506	Poisoning by diuretics and other and unspecified drugs, medicaments and biological substances; Antidotes and chelating agents, not elsewhere classified; Alcohol deterrents
X41	Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
X42	Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified
X45	Accidental poisoning by and exposure to alcohol
X61	Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
X62	Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified
X65	Intentional self-poisoning by and exposure to alcohol
Y11	Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent
Y12	Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent
Y15	Poisoning by and exposure to alcohol, undetermined intent

Source: <http://apps.who.int/classifications/apps/icd/icd10online/>, 03/08/2010



Drug Treatment Monitoring Unit

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