



Public Health  
England

Protecting and improving the nation's health

# **Non-fatal overdose among people who inject drugs in England: 2018 report**

## **Data from the Unlinked Anonymous Monitoring Survey of HIV and Hepatitis in People Who Inject Drugs**

Health Protection Report  
Volume 12 Number 33  
14 September 2018

# Non-fatal overdose among people who inject drugs in England: 2018 report

This report presents an update of data from 2013-2017 on self-reported non-fatal overdoses among PWID. Further background information on drug misuse deaths and naloxone use is available from previous reports [1].

## Background on overdose deaths

The majority of deaths from drug misuse involve opioids [2]. Opioid overdose, most commonly associated with heroin, can be due to the variety and limited awareness of the drug purity being consumed [3-5]. Overdose is also associated with polysubstance use where the use of alcohol or benzodiazepines alongside heroin increases the depressant effect [3]. Concurrent stimulant use (for example cocaine) can mask the depressant effect resulting in increased heroin dosage which further increases the likelihood of overdose [3,6]. A recent trend for the use of heroin mixed with fentanyl has been linked to a number of overdose deaths reported late in 2016 and early in 2017 [5]. Fentanyls are synthetic opioids which have similar effects to heroin, but are more potent and toxic, meaning using a small amount can result in overdose and death.

In 2017 there were 2,310 drug misuse deaths in England; a 3.2% decrease on the previous year but still the second highest on record. Of the 1,829 deaths that were attributed to 'any opiate' on the death certificate, 59% involved heroin and morphine, 18% involved methadone and 4% fentanyl [2]. This marks the first year that the number of drug misuse deaths has fallen since 2012. Between 2012 and 2017 drug misuse deaths in England increased by 60% and heroin related deaths doubled from 579 to 1164. The rate of drug misuse deaths in 2017 compared to 2016 fell slightly in all age groups except among the over 50s [2], a trend consistent with the ageing population of people who use drugs [7]. The ageing cohort of heroin users is one of the factors identified as a cause of the rise in drug related deaths, due to deteriorating general health and increased susceptibility to overdose [7].

Naloxone is an opioid antagonist which temporarily blocks opioid receptors and reverses respiratory depression and sedation. With training, naloxone can be safely administered as an emergency antidote for opiate overdoses [3,8]. UK regulations in 2015 increased the availability of injectable naloxone to be supplied by drug treatment services without a prescription, and to extend to family, friends and peers of those at risk [9, 10]. A nasal formulation of naloxone is now available in the UK.

## Non-fatal overdose among PWID 2013-2017

Among the participants who took part in the Unlinked Anonymous Monitoring Survey across England in 2017 reporting injecting during the preceding 12 months (recent injectors), 18% reported overdosing in the preceding year compared to 19% in 2016. Despite a slight decline in the proportion of recent injectors reporting overdose this year, there has been a significant increase from 15% in 2013<sup>1</sup>. Overdose reporting increased significantly among those aged 25 to 34, from 13% in 2013 to 21% in 2017<sup>2</sup>. In 2017 the proportion of recent injectors reporting overdose was higher amongst females compared to males (19% vs 17%) (Table 1).

There was a higher level of overdose reported among those who had recently initiated injecting (i.e. those who began injecting in the preceding three years) in 2017 than those who have been injecting for longer than three years (20% vs 17%) (Table 1).

Self-reported overdose in 2017 was lowest among those who were currently in treatment for their drug use (i.e. those being prescribed a detox or maintenance drug regime; 17%). Self-reported overdose was 19% among PWID who had previously been, but were not currently, in treatment and was higher among those who had never been in treatment (23%) (Table 1).

---

<sup>1</sup> After adjusting for age and gender in a multi-variable analysis, the adjusted odds ratio for 2017 vs. 2013 was 1.3 [95% CI, 1.1-1.5]; indicating a significant increase in the level of self-reported overdose in England between these two years.

<sup>2</sup> After adjusting for gender in a multi-variable analysis, the adjusted odds ratio among those aged 25-34 years for 2017 vs. 2013 was 1.8 [95% CI, 1.3-2.5]; indicating a significant increase in the level of self-reported overdose in England between these two years.

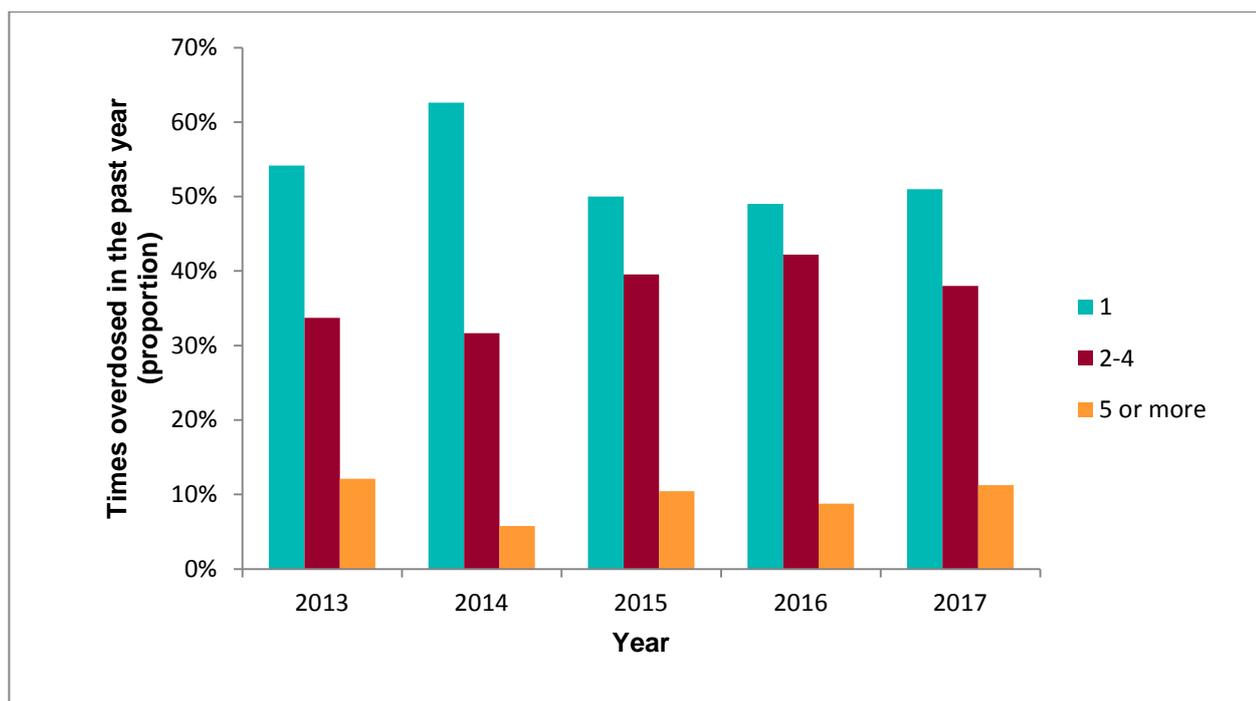
**Table 1: Self-reported overdosing in the last year among recent injectors<sup>a</sup> by gender, age, time since first injected and treatment status; England: 2013-2017**

		Year	2013	2014	2015	2016	2017
<b>All</b>		<b>Proportion overdosing in preceding year</b>	<b>15%</b>	<b>17%</b>	<b>18%</b>	<b>19%</b>	<b>18%</b>
		Number overdosing in preceding year	282	291	277	324	267
		Total number answering question	1,851	1,763	1,567	1,676	1,515
<b>Gender</b>	<b>Male</b>	<b>Proportion overdosing in preceding year</b>	<b>16%</b>	<b>16%</b>	<b>19%</b>	<b>19%</b>	<b>17%</b>
		Number overdosing in preceding year	217	215	219	240	186
		Total number answering question	1,390	1,322	1,166	1,240	1,086
	<b>Female</b>	<b>Proportion overdosing in preceding year</b>	<b>14%</b>	<b>17%</b>	<b>15%</b>	<b>19%</b>	<b>19%</b>
		Number overdosing in preceding year	64	75	58	82	80
		Total number answering question	449	437	399	432	422
<b>Age</b>	<b>Under 25</b>	<b>Proportion overdosing in preceding year</b>	<b>24%</b>	<b>23%</b>	<b>24%</b>	<b>23%</b>	<b>12%</b>
		Number overdosing in preceding year	30	27	17	10	6
		Total number answering question	127	118	71	43	49
	<b>25 to 34</b>	<b>Proportion overdosing in preceding year</b>	<b>13%</b>	<b>19%</b>	<b>21%</b>	<b>23%</b>	<b>21%</b>
		Number overdosing in preceding year	95	113	106	120	91
		Total number answering question	715	609	513	511	424
	<b>35 to 44</b>	<b>Proportion overdosing in preceding year</b>	<b>15%</b>	<b>15%</b>	<b>15%</b>	<b>16%</b>	<b>17%</b>
		Number overdosing in preceding year	105	110	98	115	107
		Total number answering question	724	710	644	719	628
	<b>45 and over</b>	<b>Proportion overdosing in preceding year</b>	<b>17%</b>	<b>11%</b>	<b>17%</b>	<b>20%</b>	<b>15%</b>
		Number overdosing in preceding year	45	35	55	75	58
		Total number answering question	263	306	330	384	391
<b>Time since first injected</b>	<b>≤3 years (recent initiates)</b>	<b>Proportion overdosing in preceding year</b>	<b>21%</b>	<b>20%</b>	<b>22%</b>	<b>18%</b>	<b>20%</b>
		Number overdosing in preceding year	44	35	37	25	28
		Total number answering question	211	176	168	140	139
	<b>&gt;3 years</b>	<b>Proportion overdosing in preceding year</b>	<b>14%</b>	<b>16%</b>	<b>17%</b>	<b>19%</b>	<b>17%</b>
		Number overdosing in preceding year	221	243	235	290	227
		Total number answering question	1,580	1,541	1,359	1,495	1,327
<b>Treatment status</b>	<b>Never in treatment/ not known</b>	<b>Proportion overdosing in preceding year</b>	<b>16%</b>	<b>13%</b>	<b>21%</b>	<b>21%</b>	<b>23%</b>
		Number overdosing in preceding year	46	40	51	54	27
		Total number answering question	289	302	248	261	115
	<b>Previously in treatment</b>	<b>Proportion overdosing in preceding year</b>	<b>21%</b>	<b>25%</b>	<b>22%</b>	<b>31%</b>	<b>19%</b>
		Number overdosing in preceding year	59	58	49	82	39
		Total number answering question	285	236	224	263	210
	<b>Currently in treatment</b>	<b>Proportion overdosing in preceding year</b>	<b>14%</b>	<b>16%</b>	<b>16%</b>	<b>16%</b>	<b>17%</b>
		Number overdosing in preceding year	177	193	177	188	200
		Total number answering question	1,277	1,225	1,095	1,152	1,182

<sup>a</sup> People who reported injecting in the last 12 months

Among recent injectors who had overdosed in the preceding year, half (51%) reported overdosing once, 38% reported overdosing 2-4 times in the last year and 11% reported that they had overdosed five or more times. (Figure 1). In 2017, among survey participants who reported overdosing in the preceding year, 47% reported having naloxone administered (Table 2). This is indicative of the availability and use of naloxone but not of its protective value since there is no way to know what the outcome of an overdose would have been if naloxone had not been administered. In 2017, among those who were currently in treatment for their drug use and who reported overdosing in the preceding year, 46% reported having naloxone administered. Among those who had previously been in treatment and who reported overdosing in the previous year, 56% reported having naloxone administered (Table 2). Treatment status is that reported at the time of survey completion and it may have been different at the time of overdosing (event occurring during the preceding year).

**Figure 1: Frequency of overdosing<sup>a</sup> among recent injectors<sup>b</sup> who reported non-fatal overdosing in the last year; England: 2013-2017**



<sup>a</sup> In 2017 the category '5 or more' overdoses in the preceding year was introduced replacing the categories '5 or 9' or '10 or more' in previous years

<sup>b</sup> People who reported injecting in the last 12 months

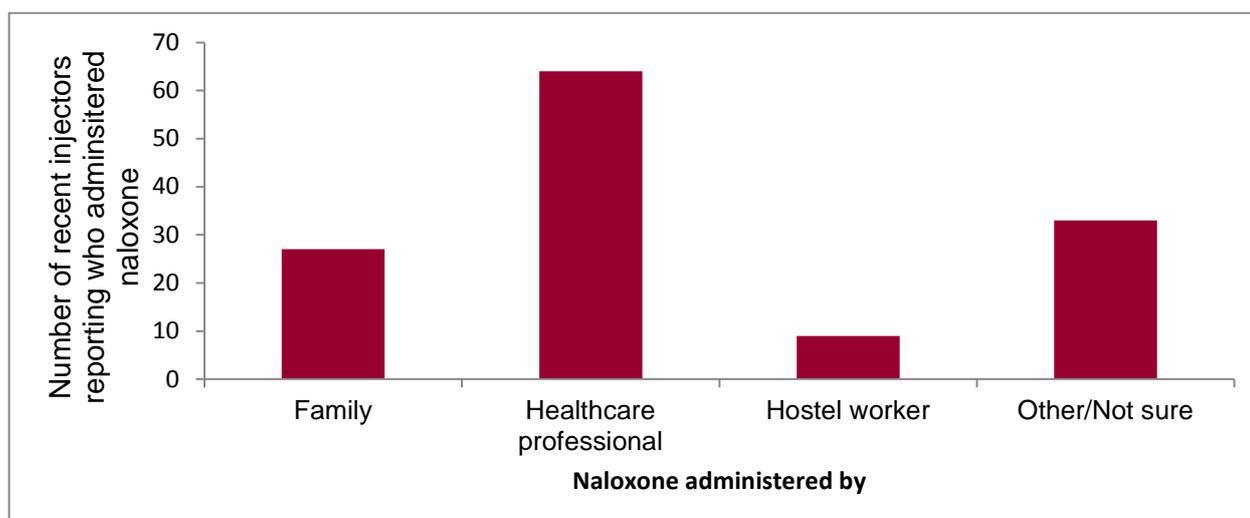
**Table 2: Self-reported naloxone administration by treatment status among recent injectors<sup>a</sup> who reported non-fatal overdosing in the last year; England: 2013-2017**

		Year	2013	2014	2015	2016	2017
All		<b>Proportion who had naloxone administered</b>	<b>42%</b>	<b>41%</b>	<b>50%</b>	<b>47%</b>	<b>47%</b>
		Number who had naloxone administered	90	100	114	127	105
		Total number answering question	216	244	230	270	223
Treatment status	Never in treatment/ not known	<b>Proportion who had naloxone administered</b>	<b>33%</b>	<b>44%</b>	<b>43%</b>	<b>51%</b>	<b>40%</b>
		Number who had naloxone administered	12	14	18	20	8
		Total number answering question	36	32	42	39	20
	Previously in treatment	<b>Proportion who had naloxone administered</b>	<b>51%</b>	<b>46%</b>	<b>63%</b>	<b>53%</b>	<b>56%</b>
		Number who had naloxone administered	25	22	27	37	19
		Total number answering question	49	48	43	70	34
	Currently in treatment	<b>Proportion who had naloxone administered</b>	<b>40%</b>	<b>39%</b>	<b>48%</b>	<b>43%</b>	<b>46%</b>
		Number who had naloxone administered	53	64	69	70	77
		Total number answering question	131	164	145	161	168

<sup>a</sup> People who reported injecting in the last 12 months

Among those who reported having naloxone administered after overdosing in the preceding year, 20% reported it was administered by family, 48% reported it was administered by a healthcare worker, 7% by a hostel worker and 25% reported it was either administered by none of the above or they were unsure who it was administered by (Figure 2).

**Figure 2: Self-reports of naloxone administration amongst recent injectors<sup>a</sup> who reported non-fatal overdosing in the last year<sup>b</sup>; England: 2017.**



<sup>a</sup> People who reported injecting in the last 12 months

<sup>b</sup> Total number answering question: 133

In 2017, among recent injectors, 13% reported carrying naloxone and having used it and 40% reported carrying naloxone though had never used it. Importantly, 40% reported not carrying naloxone despite it being available in their area and just 7% of recent injectors reported that they did not carry naloxone and it was not available in their area.

Despite a small decline in 2017, non-fatal overdoses have been increasing in England, as have overdose deaths since 2013. Half of those overdosing in the previous year were administered naloxone. Local areas should ensure the ready accessibility of their commissioned opioid substitution treatment (OST), needle and syringe programmes and take-home naloxone to all who need them Older PWID, those who inject multiple drugs, those with a recent overdose, and those with co-existing alcohol and mental health problems are all known to be at higher risk [3,11]. Additionally, those who have recently been released from prison, discharged from hospital or stopped treatment have a lower opioid tolerance and are key risk groups to identify and engage in harm reduction interventions and overdose prevention initiatives [3].

## References

1. Public Health England NIS (2017). Non-fatal overdose among People Who Inject Drugs in England: 2017 report.
2. ONS (2018). Deaths Related to Drug Poisoning in England and Wales: 2017 registrations 2017 [16/08]: [www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsrelatedtodrugpoisoninginenglandandwales/2017registrations](http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsrelatedtodrugpoisoninginenglandandwales/2017registrations).
3. Clinical Guidelines on Drug Misuse and Dependence Update 2017 Independent Expert Working Group. Drug misuse and dependence: UK guidelines on clinical management. London: Department of Health, 2017.
4. Unick G, Rosenblum D, Mars S, Ciccarone D (2014). The relationship between US heroin market dynamics and heroin-related overdose, 1992-2008. *Addiction* (Abingdon, England). **109**(11): 1889-98. Epub 2014/06/19. doi: 10.1111/add.12664. PubMed PMID: 24938727.
5. Pierce M, Bird SM, Hickman M, Marsden J, Dunn G, Jones A, et al (2016). Impact of treatment for opioid dependence on fatal drug-related poisoning: a national cohort study in England. *Addiction* (Abingdon, England). **111**(2):298-308. doi: 10.1111/add.13193.
6. Kaye S, Darke S (2004). Non-fatal cocaine overdose among injecting and non-injecting cocaine users in Sydney, Australia. *Addiction* (Abingdon, England). **99**(10): 1315-22. Epub 2004/09/17. doi: 10.1111/j.1360-0443.2004.00875.x. PubMed PMID: 15369570.
7. Public Health England (2018). Preventing drug misuse deaths 2017 [16/08]: [www.gov.uk/government/publications/health-matters-preventing-drug-misuse-deaths/health-matters-preventing-drug-misuse-deaths](http://www.gov.uk/government/publications/health-matters-preventing-drug-misuse-deaths/health-matters-preventing-drug-misuse-deaths).
8. Wermeling DP 2015. Review of naloxone safety for opioid overdose: practical considerations for new technology and expanded public access. *Therapeutic advances in drug safety*. **6**(1):20-31.
9. Public Health England (2015). Take-home naloxone for opioid overdose in people who use drugs: [www.gov.uk/government/publications/providing-take-home-naloxone-for-opioid-overdose](http://www.gov.uk/government/publications/providing-take-home-naloxone-for-opioid-overdose).
10. Local Government Association (2018). Report of the Naloxone survey 2017 [16/08]: [www.local.gov.uk/sites/default/files/documents/LGA%20Naloxone%20survey%202017.pdf](http://www.local.gov.uk/sites/default/files/documents/LGA%20Naloxone%20survey%202017.pdf).
11. O'Halloran C, Cullen K, Njoroge J, Jessop L, Smith J, Hope V, et al (2017). The extent of and factors associated with self-reported overdose and self-reported receipt of naloxone among people who inject drugs (PWID) in England, Wales and Northern Ireland. *International Journal of Drug Policy*. **46**:34-40.

## About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

### *About Health Protection Report*

Health Protection Report is a national public health bulletin for England and Wales, published by Public Health England. It is PHE's principal channel for the dissemination of laboratory data relating to pathogens and infections/communicable diseases of public health significance and of reports on outbreaks, incidents and ongoing investigations.

Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG.  
Tel: 020 7654 8000.

Twitter: [@PHE\\_uk](#) Facebook: [www.facebook.com/PublicHealthEngland](http://www.facebook.com/PublicHealthEngland)

Queries relating to this document should be directed to:

HIV and STI Department, National Infection Service, PHE Colindale, 61 Colindale Avenue, London NW9 5EQ

[stephanie.migchelsen@phe.gov.uk](mailto:stephanie.migchelsen@phe.gov.uk) / [flora.stevens@phe.gov.uk](mailto:flora.stevens@phe.gov.uk)

© Crown copyright 2018

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, please visit [OGL](#) or email [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk). Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

**Published:** September 2018

**PHE publications**

**gateway number:** 2018417

PHE supports the UN

Sustainable Development Goals

