Public Health Scotland

Drug-Related Hospital Statistics

Scotland 2023/24

An Accredited official statistics release for Scotland

Publication date: 15 April 2025

Translations and other formats are available on request at:

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Contents

Introduction

This release by Public Health Scotland reports on hospital stays in relation to controlled drug use (substances for which manufacture, possession and use are regulated by government, due to their potential for abuse or harm). This report describes the number of inpatient drug-related hospital stays, the number and characteristics of patients admitted to hospital, the substances involved and the geographical variations within Scotland.

This publication also includes some topic-focused sections which are aligned to areas of stakeholder and public interest. These are outwith the core content of this publication and may be subject to change in future reports. The following topic-focused sections are included in this report:

- a description of hospital stays related to drug overdoses; and,
- an exploration of the increase in rates of cocaine-related hospital stays.

Data used in this report

This report includes information on inpatient and day case activity in general acute and psychiatric specialties in Scotland, where drug use was recorded as a diagnosis at some point during the patient's hospital stay. The information reported in this publication is a combination of data from the following sources:

- General acute inpatient and day case records (SMR01), years 1996/97 to 2023/24
- Psychiatric inpatient and day case records (SMR04), years 1996/97 to 2023/24

Statistical disclosure control has been applied to protect patient confidentiality. Therefore, the figures presented in these statistics may not be additive and may differ to those reported in previous publications.

Further information on the data used within this report and the methods applied is detailed in the **Methods** section below.

Terminology

Within this report, the use of technical/statistical terms (e.g. opioids, stays, ‘new patients’) is sometimes unavoidable. For further explanation of these terms, please refer to the **Glossary**.

Main points

In 2023/24:

- There were 11,136 drug-related hospital stays (2022/23: 9,654). The European Age-sex Standardised Rate (EASR) of drug-related hospital stays was 212 stays per 100,000 population. This rate was an increase from 2022/23 (186 stays per 100,000 population) but remained below the 2021/22 level (242 stays per 100,000 population).

- In relation to drug types, the highest stay rate (91 per 100,000 population) was for opioids (drugs similar to heroin). This rate was higher than in 2022/23 (83 stays per 100,000 population) but remained below the peak of 144 per 100,000 population in 2019/20.

- The highest patient rate (373 per 100,000 population) was observed among people aged 35-44 years. This rate was an increase compared to 2022/23 (341 per 100,000 population) but remained lower than 2021/22 (425 per 100,000 population).

- Just under half (49%) of the patients with a drug-related hospital stay lived in the most deprived areas in Scotland, as measured using the Scottish Index of Multiple Deprivation.

- The rate of stays for drug poisoning/overdose increased to 27 stays per 100,000 population, from 22 stays per 100,000 population in 2022/23. This remained below the peak of 43 stays per 100,000 population observed in 2020/21.

Results and commentary

This report focusses on combined general acute and psychiatric drug-related stays. As well as overall trends in drug-related hospital stays, it addresses specific topics such as drug overdoses, and changes in rates of stays by age group.

For an overview of drug-related hospital stays over time and a more comprehensive breakdown of the statistics by drug type, location, age, sex and deprivation, see the accompanying **Data Explorer dashboard**.

Previous releases of this report were accompanied by a Trend dashboard in addition to the Data Explorer dashboard. The Trend dashboard is no longer published, as the commentary and data available there was already available in the full report and Data Explorer dashboard (see **Metadata**). If you have any questions or concerns about this, please contact **phs.drugsteam@phs.scot**.

The definition of a drug-related hospital stay includes drug poisonings/overdoses and mental & behavioural stays. For further information on the ICD10 codes used to define these groups, see **Appendix 1 - Methods.**

Discussion of drug-related psychiatric and combined general acute/psychiatric hospital trends is based on the period from 1997/98 to 2023/24. As psychiatric hospital (SMR04) stays are typically longer than general acute hospital (SMR01) stays, psychiatric episode data are submitted in two parts and compiled and quality assured over a longer time period. Therefore, the change in diagnosis coding from ICD9 to ICD10 at the start of 1996/97 had an impact on the psychiatric figures for the rest of that year. Although 1996/97 data are included in the **Data Explorer dashboard**, the commentary in all sections (other than those specifically discussing general acute hospital stays only) are based on the period from 1997/98 onwards, when SMR04 data appear to be more consistent.

Throughout this report, we make reference to ‘stays’, ‘patients’ and ‘new patients’. A ‘stay’ refers to a continuous period of time spent in a hospital setting. A ‘patient’ is an individual admitted to hospital. Each patient may have more than one stay within a

financial year. A ‘new patient’ is an individual who has not had a drug-related stay in a Scottish hospital within the previous ten years.

Patient deprivation quintiles are referred to throughout the report. Quintiles divide the population into five equal groups so that 20% of the population of Scotland falls into each quintile (deprivation quintile 1 is the most deprived, deprivation quintile 5 is the least deprived). Small geographical areas are assigned to quintiles based upon the **Scottish Index of Multiple Deprivation** (SIMD) which calculates deprivation rates with reference to a range of social and economic indicators.

For further information on definitions used in this report, see the **Appendix 1 - Methods** section of the report.

For further information on deprivation, see **Appendix 2 - Deprivation**.

Further background information and a comprehensive list of revisions to this publication is available in the **Appendix 3 - Background Information**.

For further explanations of technical terms, please refer to the **Glossary**.

Overall patterns and trends

The information in this section covers all drug-related hospital stays in Scotland. Data from general acute and psychiatric hospitals are combined and all diagnoses relating to drug use (mental & behavioural and overdose/poisoning diagnoses) are included.

For data relating to each individual hospital type or diagnosis type, please see the **Data Explorer dashboard.**

Stays, Patients, New patients

The combined drug-related stay rate had increased steadily over the reported time series, increasing more than threefold from 87 to 289 stays per 100,000 population between 1997/98 and 2019/20. The rate of drug-related hospital stays decreased over the next three consecutive years to 186 stays per 100,000 population in 2022/23 (2020/21: 276 stays per 100,000 population, 2021/22: 242). The rate increased in 2023/24 to 212 stays per 100,000 population, however this remained below the 2021/22 level (Figure 1.1).

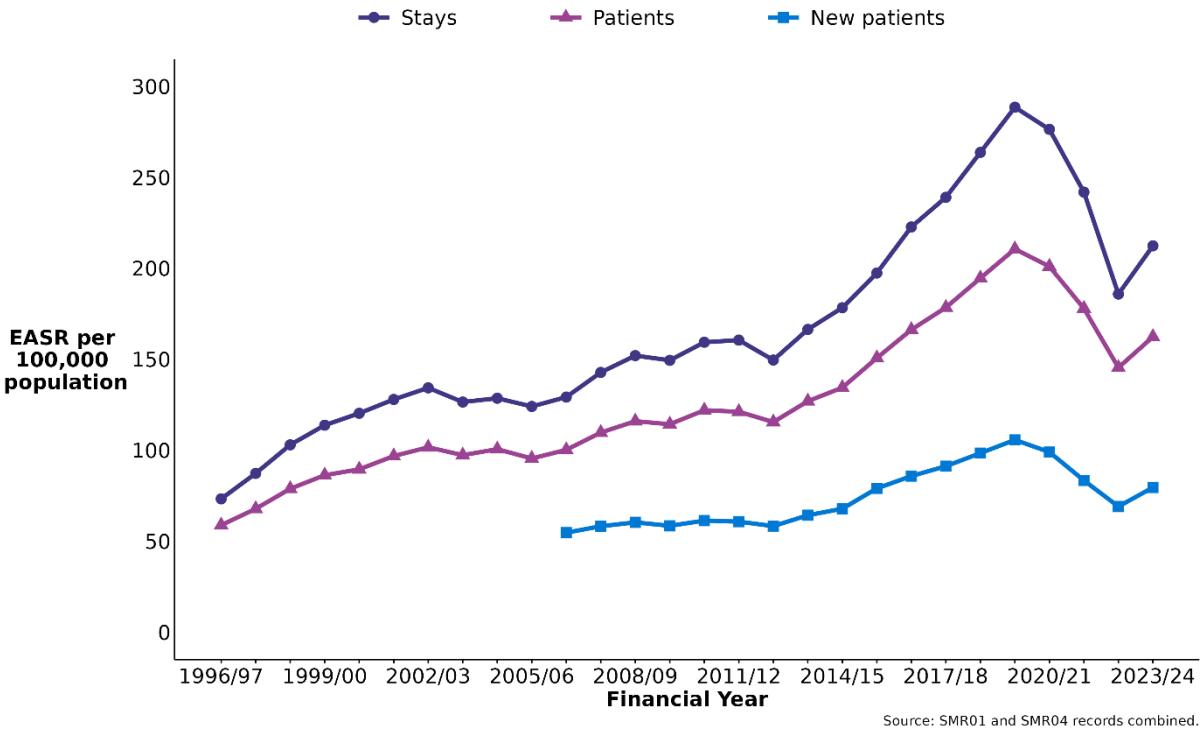
A person may have more than one drug-related hospital stay within a financial year. In 2023/24, there were 11,136 drug-related hospital stays among 8,535 patients. Changes in the patient rate closely corresponded with changes in the stay rate. The drug-related patient rate increased threefold from 68 to 211 patients per 100,000 population during the period 1997/98 to 2019/20. Between 2020/21 and 2022/23 the patient rate decreased from 201 to 146 per 100,000 population followed by an increase in 2023/24 to 162 patients per 100,000 population (Figure 1.1).

Patients were classed as ‘new’ patients if they had not had a drug-related stay in hospital within the previous ten years. In 2023/24, there were 4,245 new patients. Therefore, 50% of the drug-related patients in 2023/24 were new patients (i.e. had not had a similar stay in hospital within the previous ten years). This was an increase from the two previous years (48% of drug-related patients in 2021/22 and 2022/23 were new patients) and returned to the level previously seen in 2020/21.

The drug-related new patient rate varied little from 2006/07 to 2012/13 (from 55 to 61 new patients per 100,000 population) and then gradually increased to 106 in 2019/20 where 51% of drug-related patients were new patients. As with the other rates described here, the new patient rate decreased between 2020/21 and 2022/23 to 69 new patients per 100,000 population but had increased slightly in 2023/24 to 80 new patients per 100,000 population (Figure 1.1).

The interruption of the long-term increasing trend in numbers and rates of drug-related hospital stays in 2020/21 appeared to have coincided with the COVID-19 lockdowns and associated restrictions. Following three years of decline, rates in 2023/24 had shown small increases, however in most measures this increase remained below 2021/22 levels.

Figure 1.1: Drug-related general acute/psychiatric combined hospital rates[1,2] by activity type (Scotland; 1996/97 to 2023/24*)



1. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.
2. See **Glossary** for definitions of stays, patients and new patients

* Provisional

Hospital type

In each year of the time series, drug-related general acute stays outnumbered comparable psychiatric stays. In 2023/24, of a total of 11,136 drug-related hospital stays, 84% (9,369) were in general acute hospitals, and 16% (1,767) were in psychiatric hospitals[i]. The percentage of hospital stays in general acute hospitals

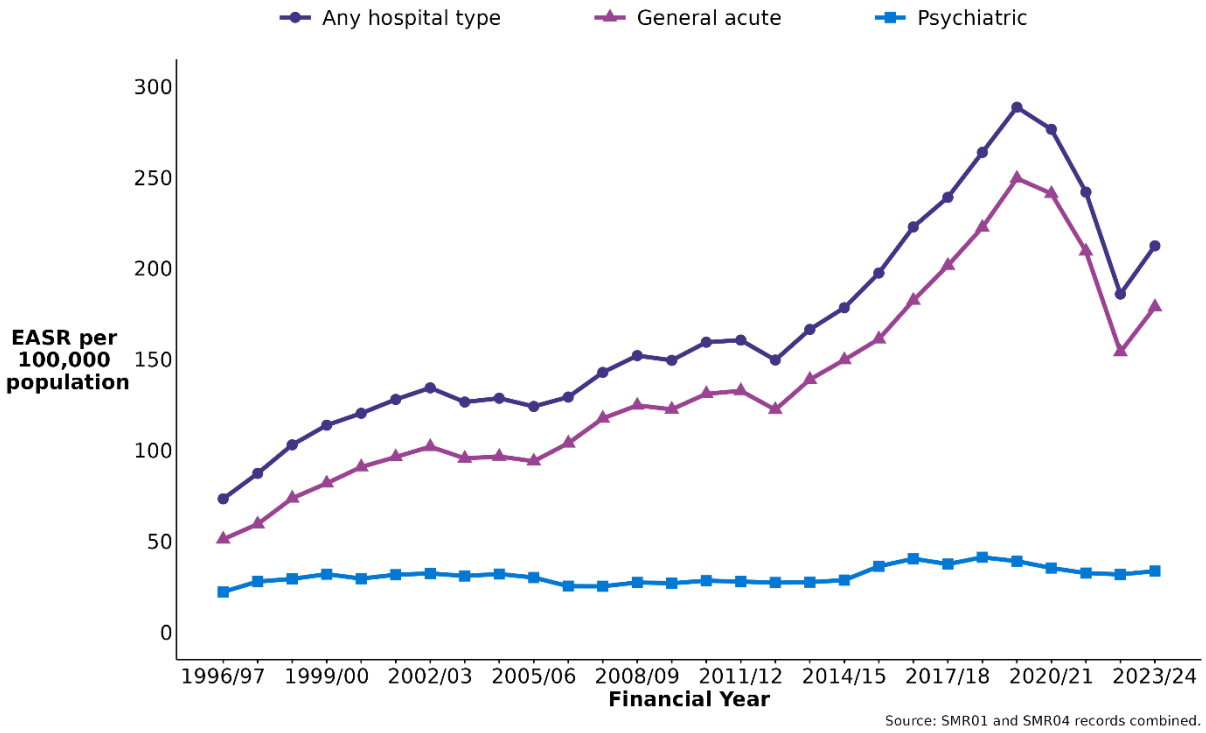
[i] Due to the statistical disclosure procedures applied to this data, numbers may not be additive.

decreased from 87% in 2021/22 and was similar to the previous year (2022/23: 83%).

The rate of drug-related stays in general acute hospitals in 2023/24 increased to 179 stays per 100,000 population, compared to 154 stays per 100,000 population the previous year. Whilst this was the first year where the stay rate had increased since 2019/20 (250 stays per 100,000 population), where there had been a general increase since 1997/98 (60 stays per 100,000 population), it remained lower than 2021/22 (209 stays per 100,000) (Figure 1.2). As most drug-related hospital stays are in general acute hospitals, changes in the rate of drug-related stays in general acute hospitals exert a strong influence on the combined or 'any hospital' drug-related hospital stay rate.

In 2023/24, the rate of drug-related stays in psychiatric hospitals was 34 stays per 100,000 population, similar to previous years (2021/22: 33; 2022/23: 32). Between 2014/15 and 2018/19 the rate of drug-related psychiatric stays had increased from 29 to 41 stays per 100,000 population, before decreasing to 32 stays per 100,000 population in 2022/23 (Figure 1.2).

Figure 1.2: Drug-related stay[1] rates[2] by hospital type (Scotland; 1996/97 to 2023/24[*])



1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional

Diagnosis type

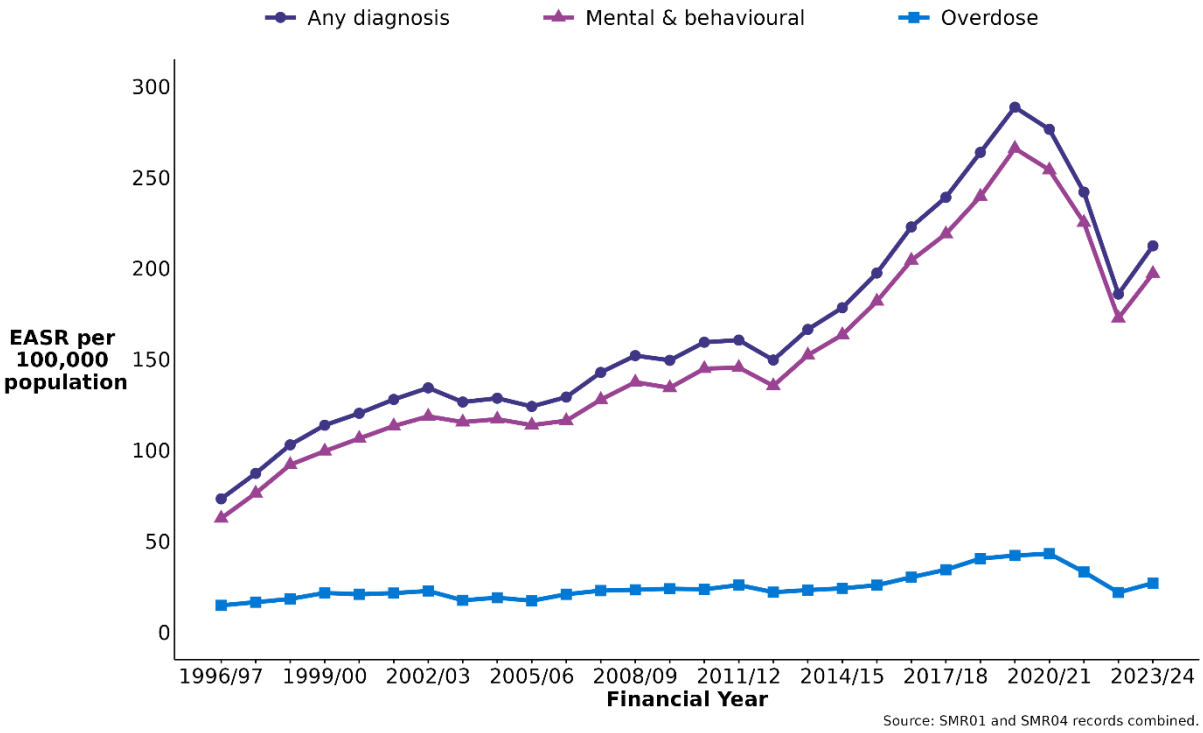
In 2023/24, of the 11,136 drug-related combined hospital stays, 10,320 (93%) included a drug-related mental & behavioural diagnosis and 1,422 (13%) included a drug poisoning/overdose diagnosis[ii] (Figure 1.3).

In 2023/24 there was an increase in the rate of drug-related mental & behavioural stays to 197 stays per 100,000 from 173 stays per 100,000 the previous year. This was the first year in which an increase had been recorded since 2019/20, where rates had peaked at 266 stays per 100,000 population, however this remained below the rate for 2021/22 (225 stays per 100,000) (Figure 1.3).

The rate of drug poisoning/overdose stays in 2023/24 increased to 27 stays per 100,000 population from 22 stays per 100,000 population the previous year. For more detailed analysis on drug poisoning/overdose stays, see the **Overdose section** in this report.

[ii] The sum of these percentages is greater than 100% as stays may include a diagnosis from each of these groups. A total of 606 (5%) drug-related stays included a diagnosis of both types (i.e. a mental & behavioural diagnosis and a drug poisoning/overdose diagnosis).

Figure 1.3: Drug-related general acute/psychiatric combined stay[1] rates[2], by diagnosis type (Scotland; 1996/97 to 2023/24[*])



1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional.

Length of stay

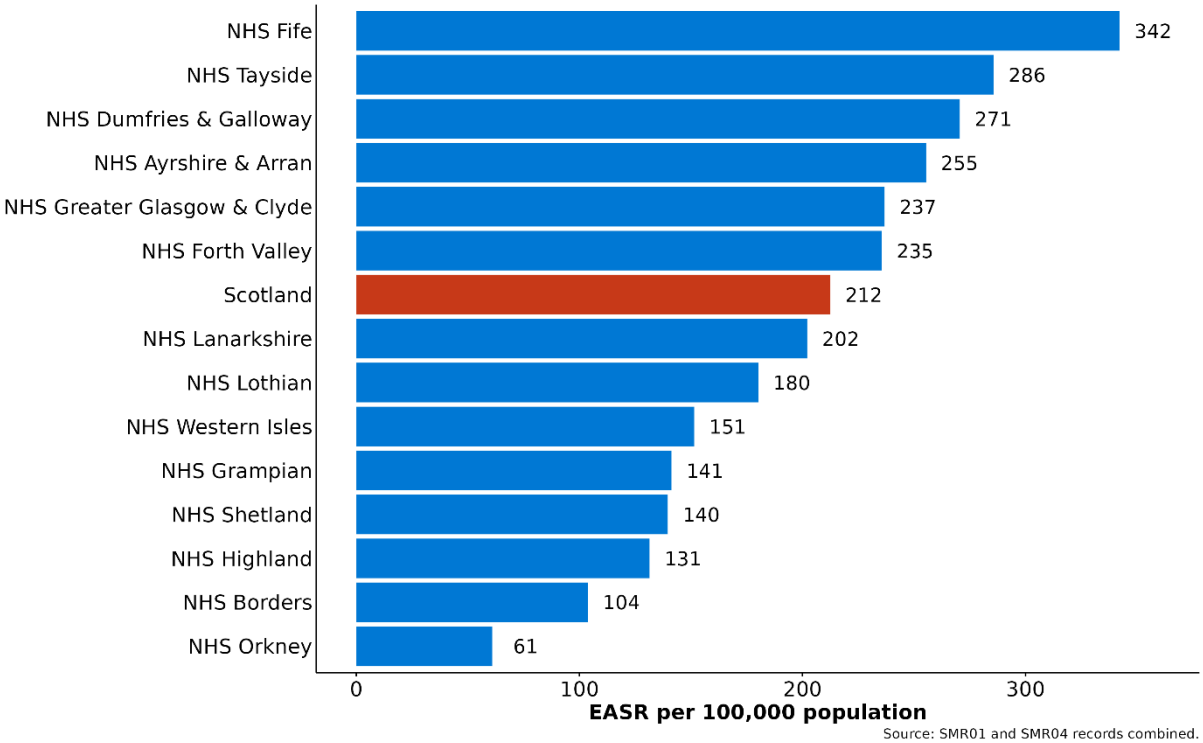
In 2023/24, 52% of drug-related general acute hospital stays were for one day or less. This was similar to the previous year (2022/23: 51%) but was outside of the range of percentages observed from 2002/03 to 2020/21, when between 54% and 61% of total stays in general acute hospitals were for one day or less. Of the remaining stays in 2023/24, 31% were between two and six days and 18% of stays were for one week or longer, similar to 2022/23.

Drug-related psychiatric hospital stays tended to be longer than general acute stays, with 71% of stays in 2023/24 lasting for one week or longer. This had generally increased since 2008/09 (61%).

Geography

Drug-related hospital stay rates varied widely by NHS Board (Figure 1.4). In 2023/24, the highest rates were seen in Fife (342 stays per 100,000 population), Tayside (286), and Dumfries & Galloway (271). Among mainland NHS Boards, the lowest rate was observed in Borders (104 stays per 100,000 population). The **Data Explorer dashboard** can be used for time-series data at NHS Board level.

Figure 1.4: Drug-related general acute/psychiatric combined stay[1] rates[2], by NHS Board of Residence (Scotland; 2023/24[*])



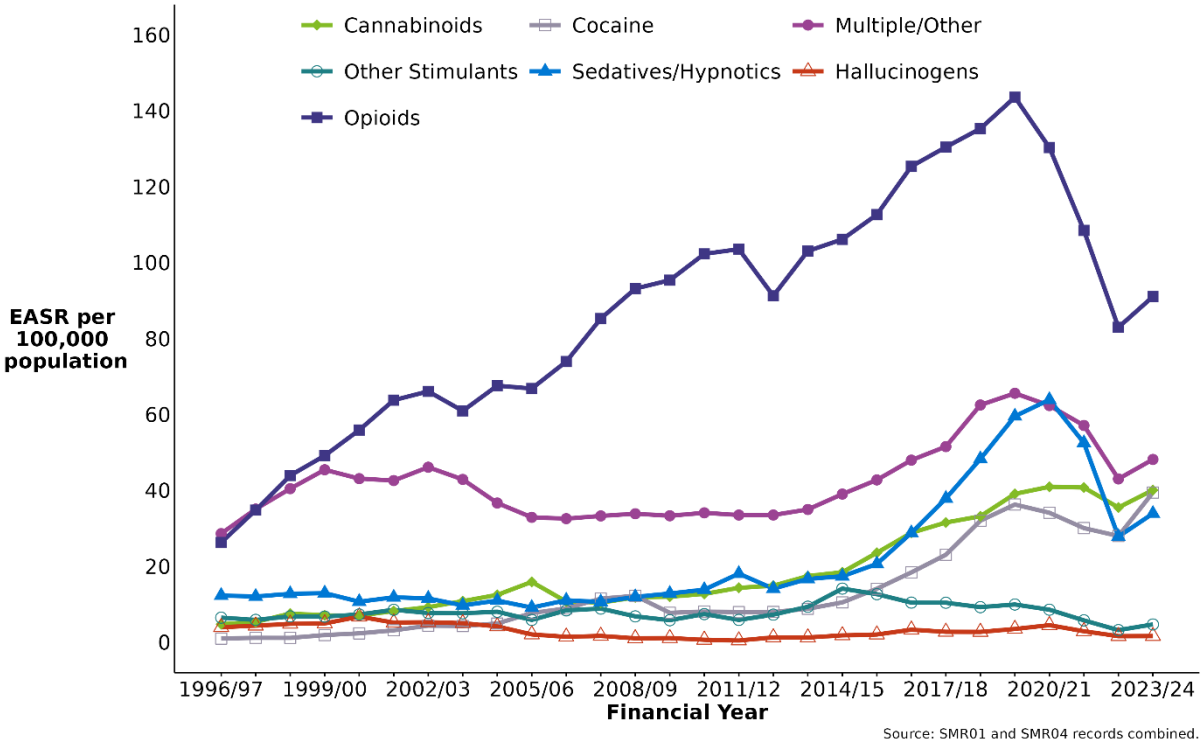
1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional.

Drug type

In 2023/24, the rate of opioid-related stays was 91 per 100,000 population. This was the first year where rates increased since they reached a peak of 144 stays per 100,000 in 2019/20, after falling to 83 in 2022/23 (Figure 1.5). The percentage of drug-related stays attributed to opioids increased from 40% (1,995) in 1997/98 to 64% (5,478) in 2011/12. After 2011/12, the percentage steadily decreased to 42% of stays 2023/24 (4,707).

Figure 1.5: Drug-related general acute/psychiatric combined stay[1] rates[2], by drug type (Scotland; 1996/97 to 2023/24[*])



1. See **Glossary** for definitions of stays, patients and new patients and drug types
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

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The rate of stays attributed to ‘multiple/other’ drugs was 48 stays per 100,000 population in 2023/24. Rates of stays attributed to 'multiple/other' drugs were approximately stable from 2005/06 to 2012/13 (33 and 34 stays per 100,000 population respectively) and then gradually increased to 66 stays per 100,000 population in 2019/20, before decreasing to 43 stays per 100,000 population in 2022/23. As with opioids, this was first year where rates increased since 2019/20 but remained below rates seen in 2020/21 (62) and 2021/22 (57) (Figure 1.5). Please see the **glossary** for the definition of the 'multiple/other' category.

The 2023/24 cannabinoid stay rate (40 stays per 100,000 population) returned to the level seen in 2020/21 and 2021/22 (41 stays per 100,000 population in both years), after a decrease to 36 stays per 100,000 in 2022/23. The rate of cannabinoid-related stays had increased eightfold from 5 stays per 100,000 population in 1997/98, with a marked rise from 2014/15 (18 stays per 100,000 population) until 2021/22 (41 stays per 100,000; Figure 1.5). While the cannabinoid stay rate decreased slightly from previous years, it remained high and was the third most commonly reported drug category in 2023/24.

In 2023/24, the cocaine stay rate (39 stays per 100,000 population) reached a new peak, compared to the previously highest rate of 36 stays per 100,000 in 2019/20. The rate of cocaine-related stays was below 10 per 100,000 population in most years between 1997/98 (1 stays per 100,000 population) and 2013/14 (9 stays per 100,000 population), after which it increased substantially to 36 stays per 100,000 population in 2019/20 and decreased to 28 by 2022/23 (Figure 1.5). Trends in cocaine-related hospital stays are explored in further detail in **Section 3 - Cocaine**.

In 2023/24, the sedative/hypnotic[iii] stay rate increased to 34 stays per 100,000 from 28 stays per 100,000 in 2022/23. This remained below the peak of 64 stays per 100,000 in 2020/21. The rate of sedative/hypnotic-related stays was consistently

[iii] This group of drugs includes ‘prescribable’ benzodiazepines (drugs such as diazepam), ‘street’ benzodiazepines (for example, etizolam and alprazolam) and z-hypnotics (for example, zopiclone). See **Glossary** for more detail.

between 9 and 13 stays per 100,000 population between 1997/98 and 2009/10 but then increased more than fivefold to its peak in 2020/21 (64). In 2023/24, sedatives/hypnotics were the fifth most commonly reported drug category - less common, relative to other drugs, than in 2020/21 (second most common category) and 2021/22 (third most common category) (Figure 1.5). The percentage of drug-related stays attributed to sedative/hypnotic decreased from 23% (3,285) in 2020/21 to 16% (1,755) in 2023/24.

Age group

The most common age of patients admitted for a drug-related hospital stay in 2023/24 were patients aged 35-44 years (373 patients per 100,000 population) (Figure 1.6). The patient rate for this age group increased from 70 patients per 100,000 population in 1997/98 to 524 per 100,000 in 2019/20. While patient rates for people aged 35-44 years had decreased substantially in the three years following 2019/20, (2020/21: 485 patients, 2021/22: 425, 2022/23: 341) it remained the most common age group among patients with a drug-related hospital stay in 2023/24.

There was a clear upward trend in drug-related patient rates among people aged 45 to 54 years from 1997/98 (18 patients per 100,000 population) to 2020/21 (311). In 2023/24 (299 patients per 100,000 population) there was a small increase in patient rates among this age group following two years of decreasing rates (2021/22: 305, 2022/23: 261).

For the 25-34 years group, patient rates fluctuated between 290 and 377 patients per 100,000 population in the period from 2000/01 to 2014/15. A series of increases since 2014/15 brought the rate to 389 patients per 100,000 population in 2019/20. Three consecutive years of decline brought the rate to the lowest level seen since 1997/98 (2022/23: 245 patients per 100,000), but there was an increase to 264 patients per 100,000 in 2023/24 (Figure 1.6).

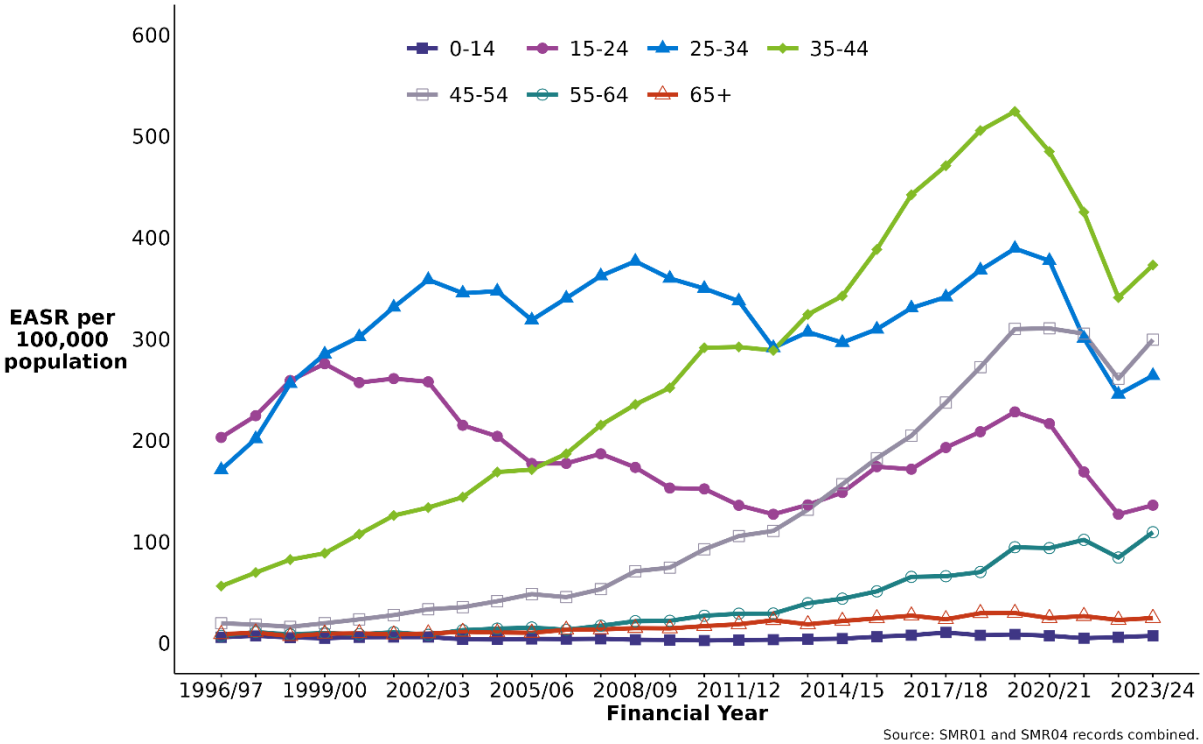
Following a long-term decrease early in the time series, patient rates for people aged 15 to 24 years increased from 127 in 2012/13 to 228 patients per 100,000 population in 2019/20. Patient rates among people aged 15 to 24 years then decreased

between 2020/21 (217 per 100,000) and 2022/23 (127 per 100,000) but increased in 2023/24 to 136 patients per 100,000 population.

Patient rates in those aged 55 to 64 years returned to the previously seen long-term increasing trend from 8 patients per 100,000 population in 2002/03 to 102 in 2021/22. In 2022/23 rates had decreased to 84 patients per 100,000 population, before increasing to a new peak of 109 patients per 100,000 in 2023/24.

Patient rates among people aged over 65 years increased from 10 per 100,000 population in 2002/03 to 30 in 2019/20 and have since decreased to 25 per 100,000 in 2023/24.

Figure 1.6: Drug-related general acute/psychiatric patient[1] rates[2], by age group (Scotland; 1996/97 to 2023/24[*])



1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional.

The youngest age group (0 to 14 years) has consistently had the lowest level of patient rates over the time series. Rates for 2023/24 were 7 patients per 100,000 population, remaining stable from the previous year (6 per 100,000) (Figure 1.6).

Trends in drug-related patient rates provide evidence of an ageing patient profile[iv]:

- The median age of patients admitted to hospital in Scotland for a drug-related event had increased from 27 to 40 over the time series.
- The highest patient rates in 2023/24 were observed among people aged 35 to 44 years (373 per 100,000) and 45 to 54 years (299 per 100,000).

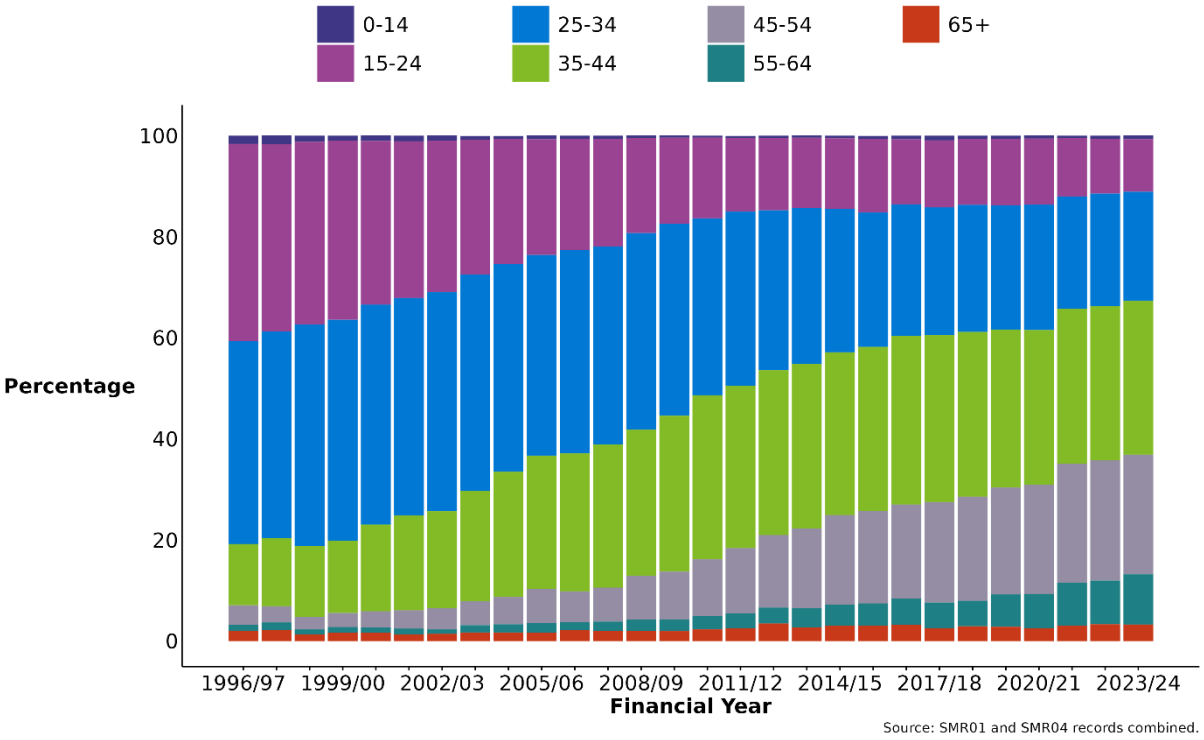
Meanwhile, the patient rates observed among people from younger age groups were some of the lowest observed in the time series.

- Among people aged 15 to 24 years, the patient rates in 2023/24 (136 per 100,000) and 2022/23 (127 per 100,000) were the lowest since 2012/13 (126 per 100,000).
- In the 25-34 age group, patient rates in 2022/23 (245 per 100,000) and 2023/24 (264) were the lowest observed since 1998/99 (256 per 100,000).

Figure 1.7 illustrates the change in composition of patients admitted for a drug-related stay across the age groups over the time series. Further age group breakdowns can be generated in the **Data Explorer dashboard**.

[iv] '**Older People with Drug Problems in Scotland: Addressing the Needs of an Ageing Population**' (Scottish Drugs Forum, 2017).

Figure 1.7: Percentage of patients[1] in each age group by year (Scotland; 1996/97 to 2023/24*)



1. See **Glossary** for definitions of stays, patients and new patients

* Provisional

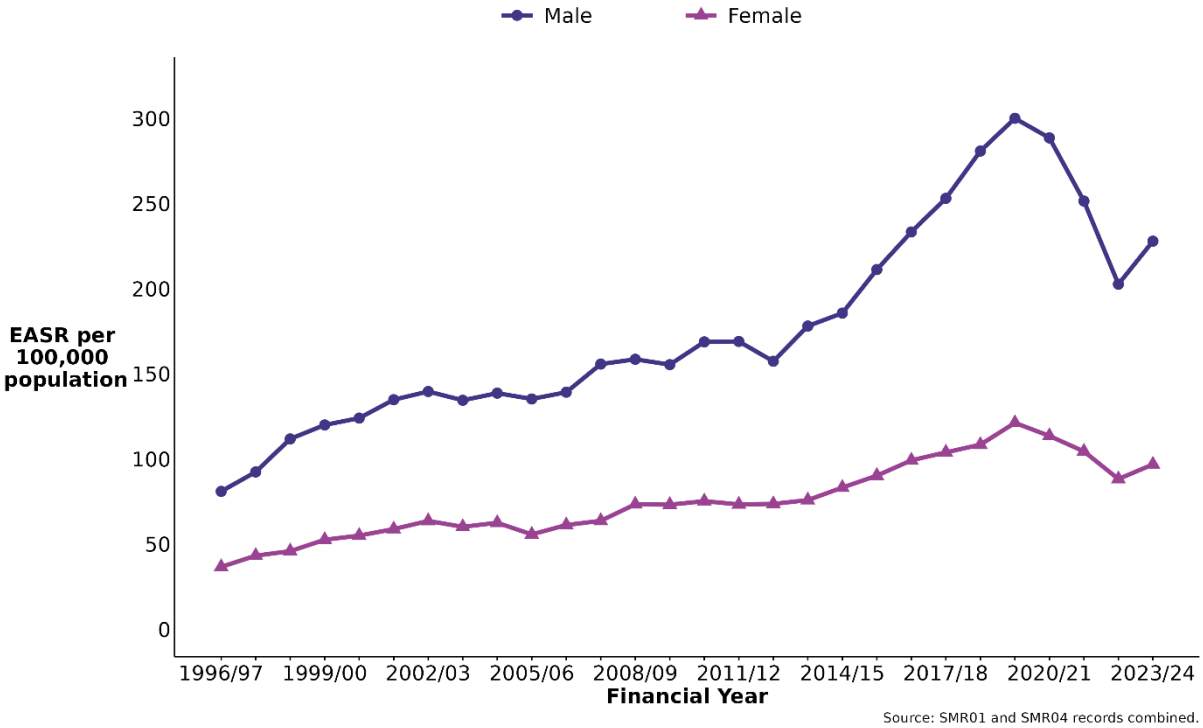
Sex

In 2023/24, 69% of patients who had a drug-related hospital stay were males (5,898 patients, rate: 228 patients per 100,000 population). The rate for females was 97 patients per 100,000 population (2,637 patients).

Between 1997/98 and 2012/13, the average sex ratio was 218 male patients for every 100 female patients. Between 2013/14 and 2018/19, the rate of male patients increased more sharply than for female patients, reaching a ratio of 247 male patients for every 100 female patients in 2018/19. By 2022/23 the ratio had decreased to 218 male patients for every 100 female patients, increasing to 224 in 2023/24.

Male and female patient rates both followed similar trends, each increasing almost threefold over the time series and peaking in 2019/20. Rates for males and females have since decreased in 2020/21 (male: 289 per 100,000, female: 114 per 100,000), 2021/22 (male: 252 per 100,000, female: 105 per 100,000) and 2022/23 (male: 203 per 100,000, female: 88 per 100,000), but increased in 2023/24 (male: 228 per 100,000, female: 97 per 100,000) (Figure 1.8).

Figure 1.8: Drug-related general acute/psychiatric patient[1] rates[2], by sex (Scotland; 1996/97 to 2023/24[*])



1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

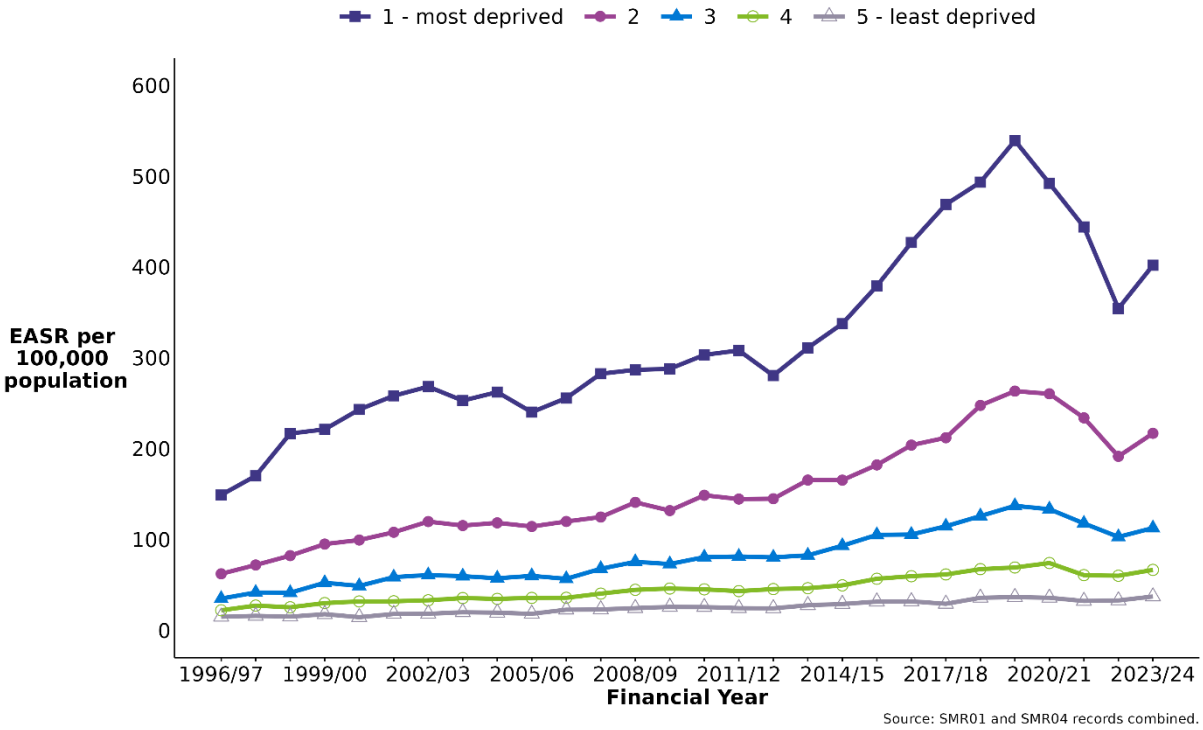
* Provisional.

Deprivation

Drug-related patient rates increased across all deprivation quintiles during 2023/24, compared to 2022/23 (Figure 1.9). Patients from the most deprived areas remained

most likely to experience a drug-related hospital stay. In 2023/24, 49% of patients (4,140: 402 patients per 100,000 population) lived in deprivation quintile 1.

Figure 1.9: Drug-related general acute/psychiatric patient [1] rates[2] by deprivation quintile (Scotland; 1996/97 to 2023/24*)



1. See **Glossary** for definitions of stays, patients and new patients and an explanation of deprivation measures (Scottish Index of Multiple Deprivation),
2. Uses European Standard Population 2013 and National Records of Scotland 2022 mid-year population estimates.

* Provisional

Drug-related hospital stays for those living in the 20% most deprived areas in Scotland (deprivation quintile 1) had generally accounted for just over half of patients in each year. From 2013/14 to 2021/22, the percentage of hospital stays for those living in the 20% most deprived areas in Scotland ranged between 50% and 53%. While not a marked reduction, percentage of drug-related hospital stays for this group was 48% in 2022/23 and 49% in 2023/24.

Overdose

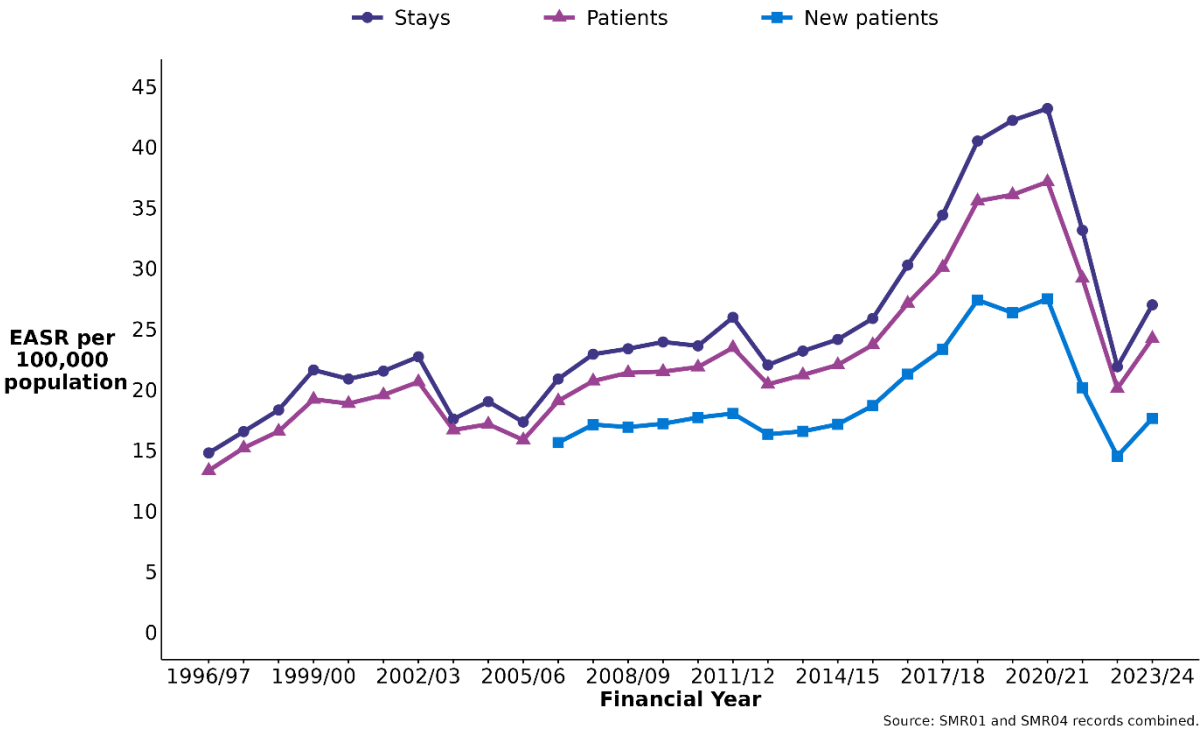
This section focuses on hospital stays where a drug poisoning/overdose diagnosis was recorded as part of a hospital stay. Drug overdoses that are treated by the Scottish Ambulance Service or in Emergency Departments and do not result in an acute hospital admission recorded in SMR01 or SMR04 are not included. Therefore, while the data included in this section provide important information on the characteristics of hospital stays associated with drug overdose, they do not provide an accurate count of the total number of drug overdoses occurring in Scotland each year.

Although very few drug-related psychiatric hospital stays were associated with drug overdose (less than 0.5% in 2023/24), all figures discussed in this section refer to combined general acute and psychiatric stays.

Trends in overdose stays

The drug-related overdose stay rate ranged between 17 and 26 per 100,000 population in the period from 1997/98 to 2015/16. Between 2016/17 and 2020/21, drug-related overdose rates increased from 30 to 43 stays per 100,000 population, before decreasing sharply to 33 stays per 100,000 population in 2021/22 and 22 stays per 100,000 in 2022/23. The rate of drug-related overdose stays increased to 27 per 100,000 population in 2023/24 (Figure 2.1).

Figure 2.1: Drug-related combined hospital rates for overdoses[1,2] (Scotland; 1996/97 to 2023/24*)



1. See **Glossary** for definitions of stays, patients and new patients.
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional

A person may have more than one overdose-related hospital stay within a financial year. In 2023/24, there were 1,422 overdose-related hospital stays among 1,281 patients. In 2023/24, the overdose patient rate was 24 per 100,000 population. Changes in the patient rate closely corresponded with changes in the stay rate, increasing substantially from 2015/16 onwards and decreasing sharply in both 2021/22 and 2022/23 (Figure 2.1).

Patients were classed as 'new' patients if they had not had a similar drug-related stay in hospital within the previous ten years. The overdose-related new patient rate varied little from 2006/07 to 2014/15 (consistently in the range of between 16 and 18

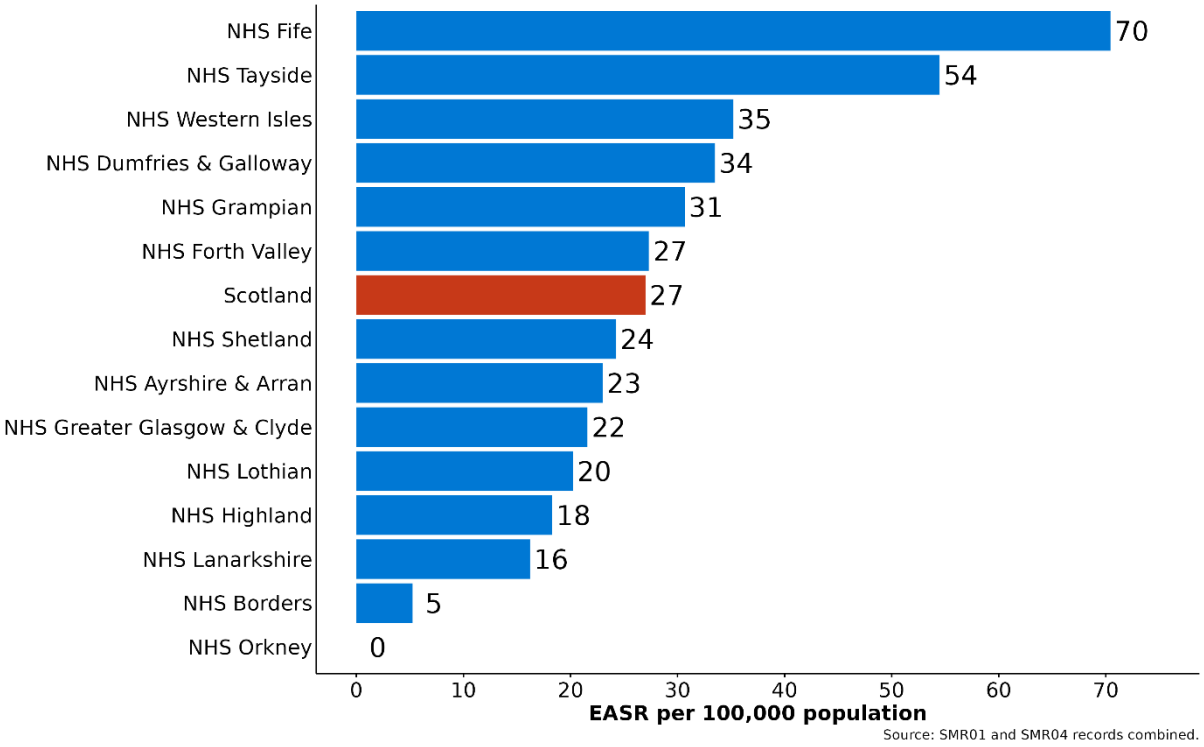
new patients per 100,000 population) then increased markedly in the following years from 21 to 27 new patients per 100,000 population between 2016/17 and 2020/21. The new patient rate decreased in 2021/22 (20 new patients per 100,000 population) and in 2022/23 (15), before increasing to 18 in 2023/24 (Figure 2.1).

In 2022/23, 74% of overdose patients were 'new' compared with 50% of patients with a mental & behavioural diagnosis. Although it had decreased over the time series (from 82% of overdose patients and 54% of mental & behavioural patients in 2006/07), the percentage of 'new' patients was consistently higher among overdose patients than those with a mental & behavioural diagnosis. While repeated admissions have become more likely for both stay types, overdose admissions may often be a first point of drug-related contact with the acute healthcare system and therefore a valuable opportunity for harm reduction interventions.

Geography

Figure 2.2 shows overdose stay rates by NHS Board. In 2023/24, the highest overdose stay rates among mainland NHS Boards were seen in NHS Fife (70 stays per 100,000 population), NHS Tayside (54) and NHS Dumfries & Galloway (34). Among mainland NHS Boards, the lowest rate was observed in NHS Borders (5). Variations between NHS Boards may reflect differences in hospital admission policies or diagnostic coding practices. The **Data Explorer dashboard** can be used to access further time series data at NHS Board level.

Figure 2.2: Drug-related general acute/psychiatric combined stay[1] overdose rates[2], by NHS Board of Residence (Scotland; 2023/24[*])



1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional.

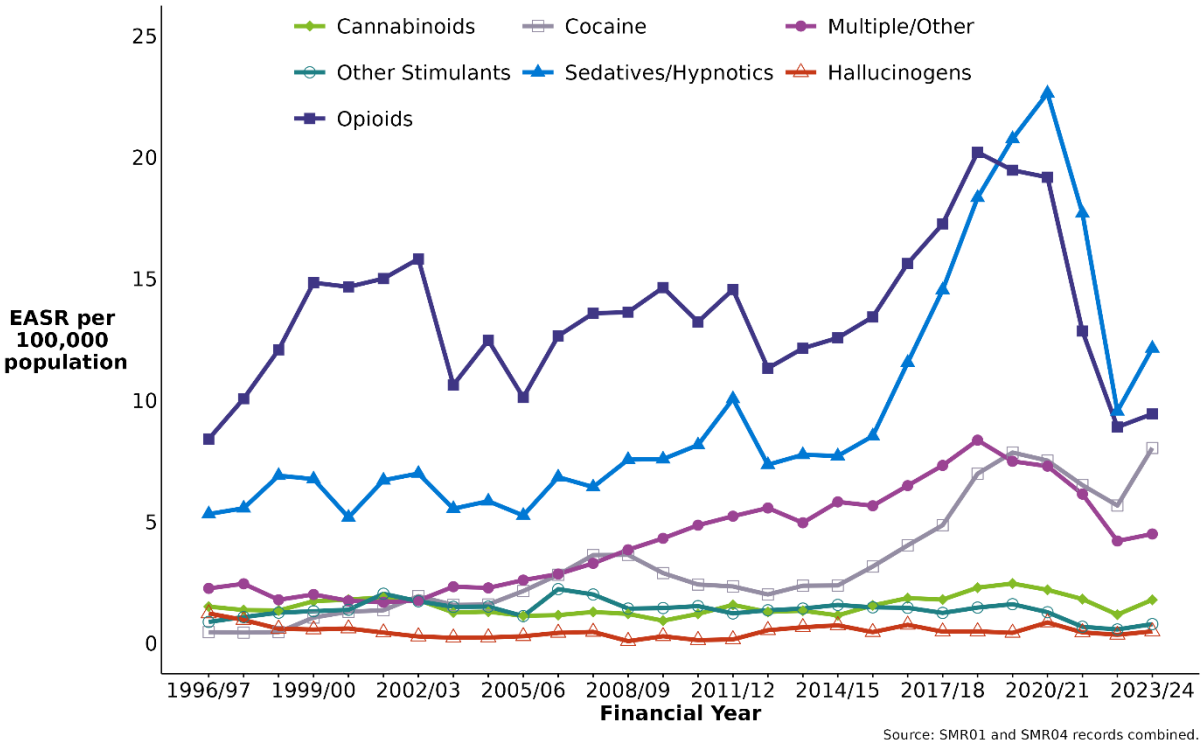
Drug type

Prior to 2016/17, the sedative/hypnotic overdose stay rate fluctuated between 5 and 10 stays per 100,000 population. Between 2016/17 and 2020/21, the rate doubled from 11 to 23 stays per 100,000 population, before decreasing in 2021/22 (18) and 2022/23 (10), and increasing in 2023/24 (12 per 100,000). Sedatives/hypnotics remained the most commonly reported drugs associated with overdose stays in 2023/24 (Figure 2.3).

From 1997/98 to 2016/17, the rate of opioid-related overdose stays largely fluctuated between 10 and 16 per 100,000 population. The rates then increased, reaching a

peak of 20 per 100,000 in 2018/19 and remained stable until a sharp decrease in 2021/22 (13 per 100,000). In 2022/23, the rate of opioid-related overdose stays decreased for a second consecutive year (9 per 100,000 population) and remained stable in 2023/24 (9 per 100,000). The percentage of overdose stays attributed to opioids decreased from a peak of 70% (846) in 2002/03 to 35% (492) in 2023/24.

Figure 2.3: Drug-related general acute/psychiatric combined stay[1] overdose rates[2], by drug type (Scotland; 1996/97 to 2023/24[*])

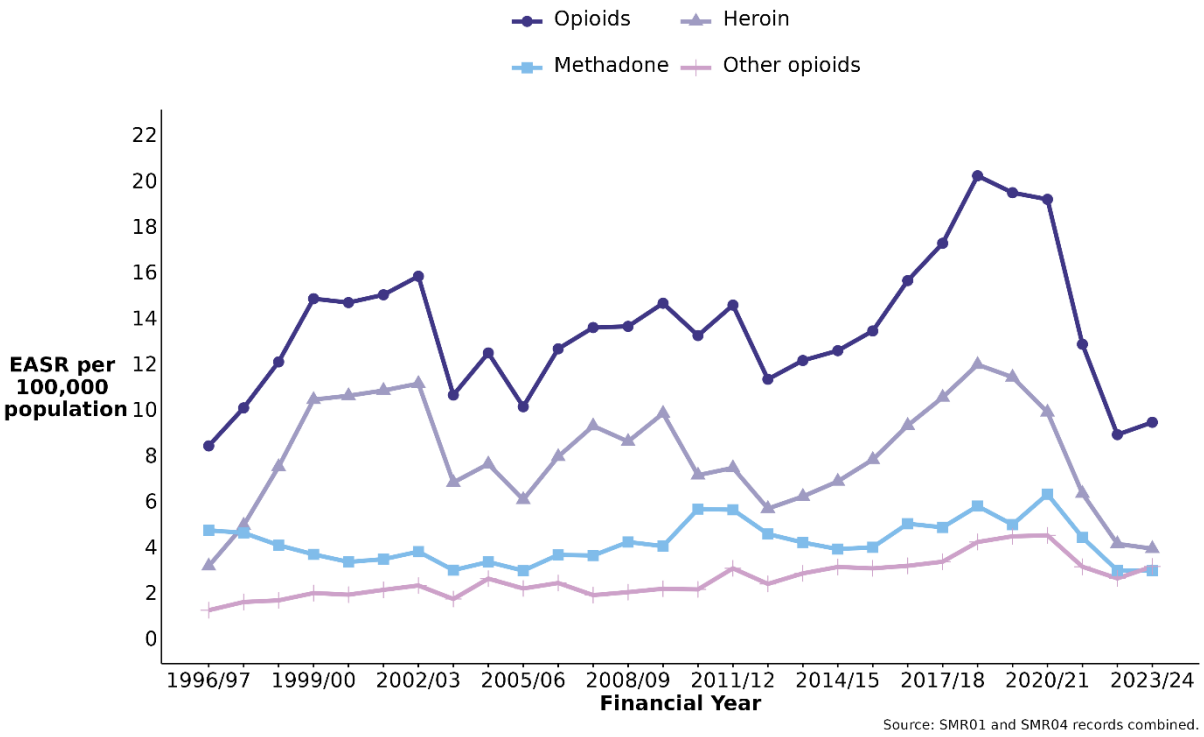


1. See **Glossary** for definitions of stays, patients, new patients and drug types referred to.
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional

The cocaine overdose rate had increased sharply from 2 stays per 100,000 population in 2014/15 to 8 stays per 100,000 population in 2019/20. Since then, the stay rate decreased slightly to 6 stays per 100,000 by 2022/23, before returning to 8 stays per 100,000 population in 2023/24 (Figure 2.3).

Figure 2.4: Opioid-related general acute/psychiatric combined stay[1] overdose rates[2], by opioid type[3] (Scotland; 1996/97 to 2023/24*)



1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.
3. The 'Opioids' drugs category includes heroin, methadone, and all other opioid drug categories. The 'other opioids' category refers to opium, synthetic narcotics, and other opioids (including buprenorphine). For an explanation of the drug types referred to see **Glossary**.

* Provisional

Of the 492 opioid overdose stays observed in 2023/24, 41% (201) were associated with heroin. Changes in the rate of opioid overdose stays were strongly related to trends in heroin overdose stays, which increased steadily from 6 to 12 stays per 100,000 population between 2012/13 and 2018/19, before remaining relatively stable until 2020/21. Since then, decreases have been observed; 6 per 100,000 in 2021/22

and 4 per 100,000 in 2022/23 and 2023/24, the lowest rate recorded since 1997/98 (Figure 2.4).

In 2023/24, the rate of opioid overdose stays associated with methadone was 3 per 100,000 population. Since 1997/98, the rate of methadone overdose stays has fluctuated between 3 and 6 stays per 100,000 population (Figure 2.4). The diagnostic coding scheme used for this publication (ICD-10) does not include a code for overdoses associated with other opioid substitution therapy drugs (such as buprenorphine). Any overdoses associated with these drugs will be captured in the 'Other opioid' category.

Demographics of overdose stays

As with patient rates for all drug-related hospital stays, trends in drug overdose patient rates provided some evidence of an ageing patient profile[v].

From 1997/98 to 2019/20, there was an upward trend in patient rates among those aged 35 to 44 years (rising from 14 to 91 patients per 100,000 population). Rates then decreased in 2020/21, 2021/22 and 2022/23 (88, 70 and 47 patients per 100,000 population respectively) and increased in 2023/24 (59 per 100,000 population). The 35-44 age group remained the most common age group with an overdose-related hospital stay in 2023/24 (Figure 2.5).

For people aged 25 to 34 years, rates fluctuated between 45 and 73 patients per 100,000 population in the period from 1998/99 to 2020/21, before falling to 49 in 2021/22 and 30 in 2022/23. In 2023/24 the rate of overdose patient rates for the 25 to 34 year age group increased to 36 patients per 100,000 population (Figure 2.5).

An upward trend in overdose patient rates was observed among people aged 45 to 54 years from 1997/98 to 2020/21 (increasing from 4 to 47 patients per 100,000 population), before a decrease to 41 patients per 100,000 population in 2021/22 and

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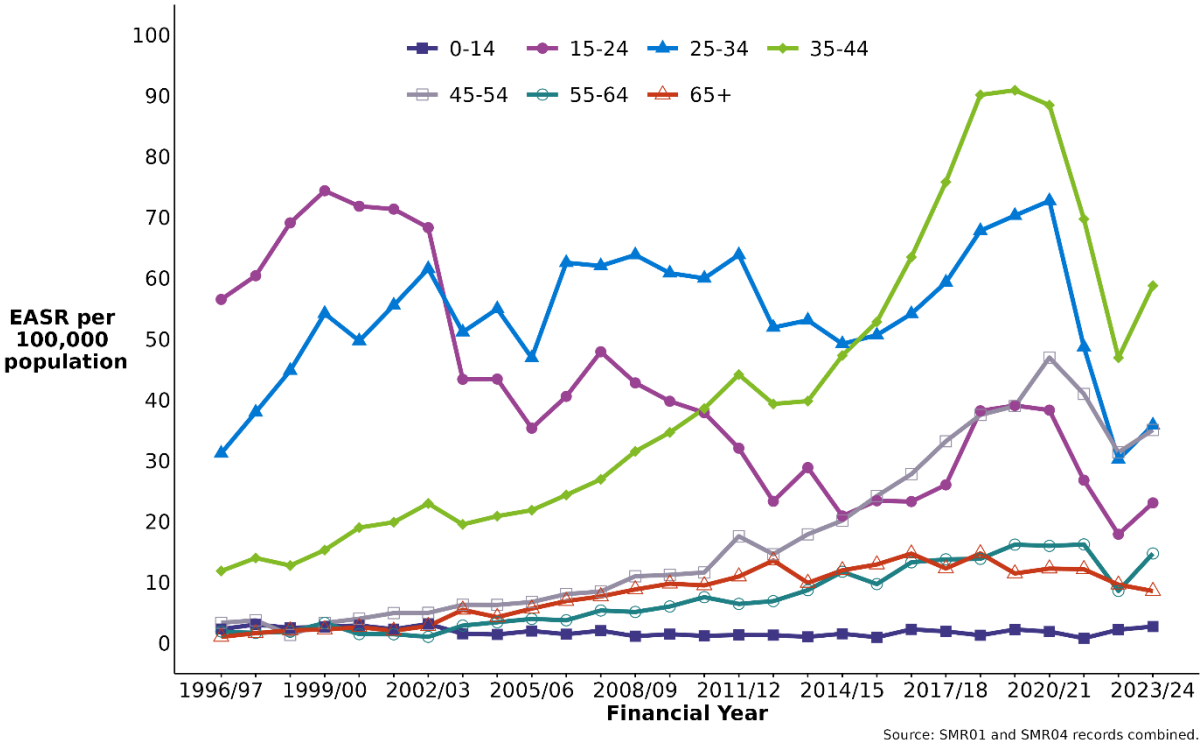
[v] **Older People with Drug Problems in Scotland: Addressing the Needs of an Ageing Population**' (Scottish Drugs Forum, 2017)

a further decrease to 31 per 100,000 in 2022/23. In 2023/24 the overdose patient rate increased to 35 patients per 100,000 (Figure 2.5).

Figure 2.5: Drug-related general acute/psychiatric patient[1] overdose rates[2], by age group (Scotland; 1996/97 to 2023/24[*])



1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional.

For people aged 15 to 24 years, a steady decrease from 1999/00 (74 patients per 100,000 population) to 2014/15 (21) was followed by a series of increases to 39 patients per 100,000 population in 2019/20 and 38 in 2020/21. Overdose patient rates among this group decreased to 27 in 2021/22 and to 18 per 100,000 in 2022/23. Patient rates for those aged 15 to 24 years increased to 23 per 100,000 in 2023/24 (Figure 2.5).

Overdose patient rates among those aged 55 to 64 years increased from 2002/03 (1 patient per 100,000 population) to 2019/20 (16 patients per 100,000) and remained stable at 16 patients per 100,000 in 2020/21 and 2021/22. In 2022/23, the patient rate for overdose stays in the 55-64 age group almost halved from 2021/22 to 9 patients per 100,000; before increasing to 15 patients per 100,000 in 2023/24 (Figure 2.5).

Other demographic features observed among overdose patients were:

- In 2023/24, just under two thirds (63%) of patients who had a drug-related hospital stay for overdose were males (807 males and 474 females). The percentage of males with an overdose stay in 2023/24 was less than that of mental and behavioural stays (70%; see **Section 1** for more details). A consistently lower proportion of males have been observed with overdose stays compared to mental and behavioural stays since 2007/08 with differences ranging between 2 to 6% lower. There was a sharp rise in the male overdose patient rate from 31 per 100,000 in 2015/16 to 51 per 100,000 in 2020/21, then decreasing to 39 in 2021/22 and 27 per 100,000 in 2022/23, before increasing to 31 in 2023/24. Overdose patient rates for females followed a similar pattern, decreasing to 14 per 100,00 in 2022/23 from a peak of 24 in 2020/21, before increasing to 17 in 2023/24.

- Patients from more deprived areas were more likely to experience an overdose-related hospital stay. In each year in the time series, just under half of patients with an overdose-related hospital stay lived in the 20% most deprived areas in Scotland (deprivation quintile 1: 44% in 2023/24). The percentage of patients in the most deprived areas with an overdose related hospital stay were slightly lower than those with mental and behavioural stays in 2022/23 (49%, see **Section 1** for more details). Overdose patient rates decreased in line with deprivation. The overdose patient rate in the most deprived quintile was 55 per 100,000 population compared to 35 in the second most deprived quintile, 17 in the third most deprived quintile, 11 in the fourth most deprived, and 8 in the least deprived.

Conclusion

In 2023/24 rates of drug poisoning/overdose stays, patients and new patients increased following approximately three years of decline, however, remained below rates seen in 2021/22.

For the fifth consecutive year, the most common drugs associated with stays for drug poisoning/overdoses were sedatives/hypnotics, followed by opioids. Rates of overdose stays related to sedative/hypnotics, cocaine and cannabinoids had increased in 2023/24, whilst remaining relatively stable across the remaining drug types. The increases in cocaine-related stays specifically are explored in more detail in the **next section**.

Cocaine

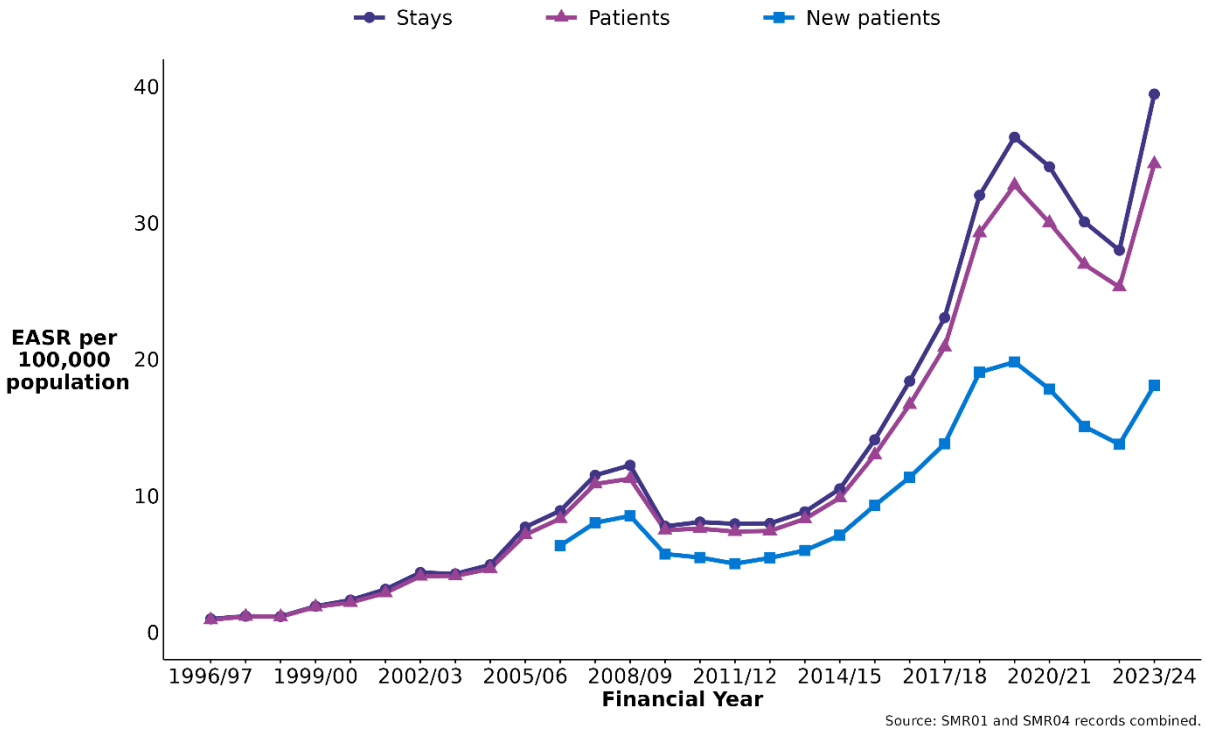
This section focuses on hospital stays related to cocaine. Cocaine was the fourth most common substance noted in drug-related hospital stays in 2023/24 (See **Section 1**) and showed the largest rate increase (41%) compared to 2022/23 of the major drug groups.

Other data sources have reported recent increases in cocaine-related harms in Scotland: 30% of people starting specialist drug treatment in Scotland in 2023/24 reported cocaine as their main drug, overtaking heroin (28%) for the first time since reporting began (**DAISy Overview of Initial Assessments for Specialist Drug and Alcohol Treatment report**); 60% of people who injected drugs reported recent intravenous cocaine use in 2022/23, compared to 37% in 2019/20 (**Needle Exchange Surveillance Initiative** report); and a variety of sources which feed into the **RADAR** report (Rapid Action Drug Alerts and Response, Scotland's drugs early warning system) have identified cocaine as the most commonly detected substance in post-mortem and emergency department toxicology samples.

Trends in cocaine-related hospital stays

Between 1997/98 and 2008/09 the rate of cocaine-related hospital stays increased from 1 to 12 stays per 100,000 population. The rate remained relatively stable at 8 stays per 100,000 population for the next four years and then underwent a rapid increase, peaking at 36 stays per 100,000 population in 2019/20. Between 2020/21 and 2022/23 rates fell to 28 stays per 100,000 population but have subsequently increased again to 39 stays per 100,000 in 2023/24 (Figure 3.1). Rates of hospital stays for Opioids and Multiple/Other drugs also peaked in 2019/20, with Sedatives/Hypnotics reaching their highest point in 2020/21 (Figure 1.5). These three drug groups experienced greater reductions in rates in the three years following their peaks, compared to cocaine.

Figure 3.1: Cocaine-related general acute/psychiatric combined hospital rates[1,2] by activity type (Scotland; 1996/97 to 2023/24*)



1. See **Glossary** for definitions of stays, patients and new patients.
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional

A patient may have more than one cocaine-related hospital stay within a financial year. In 2023/24 there were 2,079 cocaine-related hospital stays among 1,812 patients. Changes in the patient rate closely corresponded with changes in the stay rate. Between 2009/10 and 2019/20 the cocaine-related patient rate increased from 7 to 33 patients per 100,000 population, before decreasing to 25 in 2022/23. In 2023/24 the cocaine-related patient rate reached a new peak of 34 patients per 100,000 population (Figure 3.1).

Patients are classed as 'new' patients if they had not had a drug-related hospital stay within the previous 10 years. In 2023/24, 966 patients (53% of all patients admitted

for a cocaine-related stay[vi], 23% of all new patients) who had been admitted for a cocaine-related hospital stay were new patients. In comparison, 31% of all patients admitted for opioid-related stays, and 34% of all patients admitted for sedative/hypnotic-related stays were new patients.

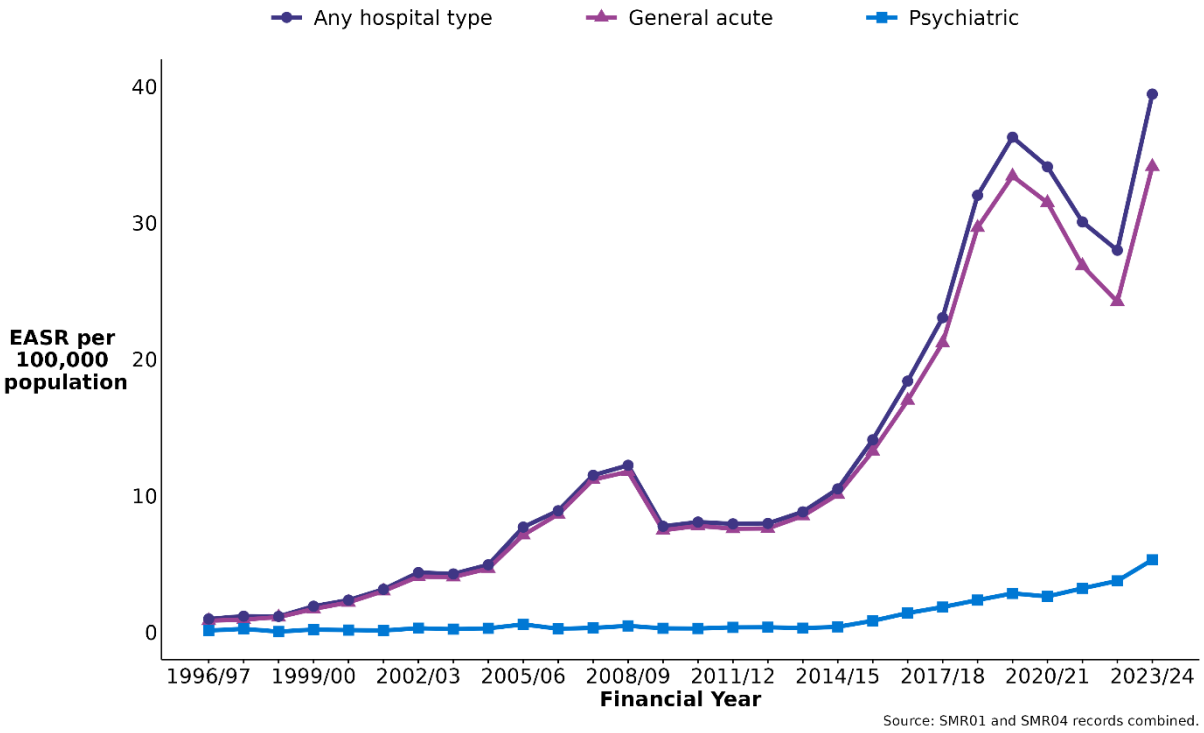
Hospital Type

In each year of the time series, cocaine-related general acute stays outnumbered comparable psychiatric stays. In 2023/24, of a total of 2,079 cocaine-related hospital stays, 87% (1,800) were in general acute hospitals and 13% (279) were in psychiatric hospitals. The percentage of cocaine-related hospital stays which occurred in psychiatric hospitals increased from 3% of stays in 2013/14 to 13% in 2023/24.

The rate of cocaine-related general acute hospital stays in 2023/24 was 34 stays per 100,000 population, which exceeded the previous peak rate of 33 stays per 100,000 population in 2019/20. Rates of cocaine-related psychiatric hospital stays remained fairly constant to 2014/15 but had steadily increased to a peak of 5 stays per 100,000 population in 2023/24. This finding contrasts with drug-related psychiatric admissions related to other substances, where stay rates have remained relatively stable in recent years (See **Section 1**, Figure 1.2).

[vi] 966 out of 1,812 patients admitted for a cocaine-related hospital stay were new.

Figure 3.2: Cocaine-related stay[1] rates[2] by hospital type (Scotland, 1996/97 to 2023/34*)



1. See **Glossary** for definitions of stays.
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional

Diagnosis type

In 2023/24, of the 2,079 cocaine-related combined hospital stays, 1,680 (81%) were identified via the mental and behavioural diagnosis codes (F14 - **See Appendix 1** - for further details), and 426 (20%) included a poisoning/overdose diagnosis[vii].

[vii] The sum of these percentages is greater than 100% as stays may include a diagnosis from each of these groups.

Length of stay

In 2023/24, 62% of cocaine-related general acute hospital stays were for one day or less. This was similar to the previous year (2022/23: 63%) but was lower than the range of percentages observed from 2004/05 to 2020/21, when between 70% and 83% of total cocaine-related stays in general acute hospitals were for one day or less. Of the remaining stays in 2023/24, 28% were between two and six days and 10% of stays were for one week or longer, similar to 2022/23.

Cocaine-related psychiatric hospital stays tended to be longer than general acute stays, with 63% of stays in 2023/24 lasting for one week or longer. This percentage was similar to 2019/20 (64%), having decreased to 54% in 2022/23.

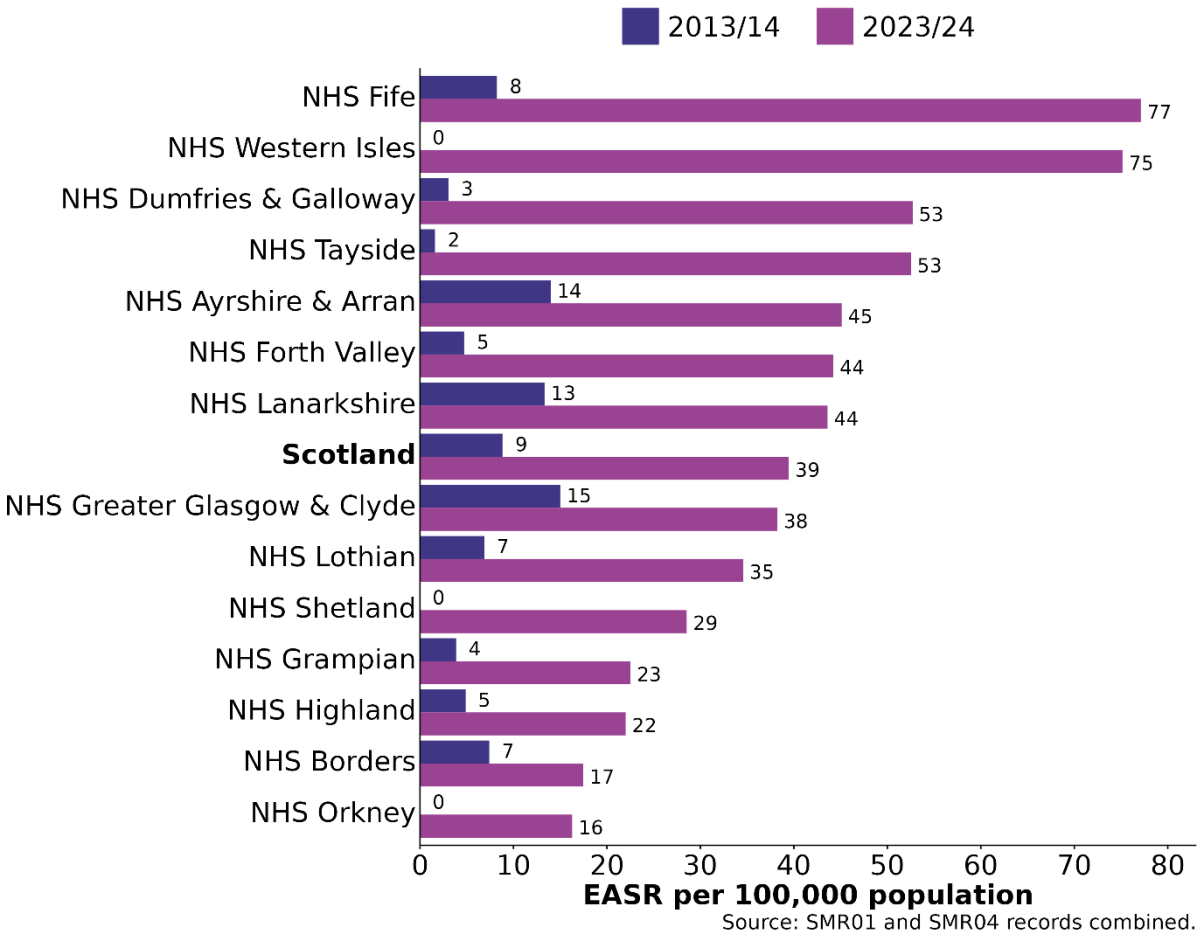
Cocaine-related stays in general acute and psychiatric hospitals tended to be shorter than overall drug-related stays (see **Section 1**). Overall, cocaine-related stays were shorter than opioid-related stays in general acute hospitals (45% of stays for opioids lasted one day or less) and in psychiatric hospitals (72% of opioid-related stays lasted one week or longer).

Geography

Rates of cocaine-related hospital stays have increased dramatically over the previous 10 years. Figure 3.3 compares rates in all NHS Board areas in 2023/24 to 2013/14, when overall rates of cocaine-related stays in Scotland began to rise.

Rates of cocaine-related hospital stays in Scotland overall increased roughly four-fold from 9 stays per 100,000 population in 2013/14, to 39 per 100,000 in 2023/24. In 2013/14, NHS Greater Glasgow & Clyde was the NHS Board with the highest rate of cocaine-related hospital stays, but these more than doubled over the 10-year period, from 15 stays to 38 stays per 100,000 population. In 2023/24, the highest rates were seen in Fife, which experienced a near ten-fold increase from 8 stays to 77 stays per 100,000 population over this time period. Among mainland NHS Boards, Borders had the lowest rate in 2023/24 (17 stays per 100,000 population).

Figure 3.3: Cocaine-related general acute/psychiatric combined stay rates by NHS Board of Residence[1,2] (2013/14 and 2023/34*)



1. See **Glossary** for definitions of stays
2. Uses European Standard Population 2013 and National Records of Scotland mid-year population estimates for 2013 and 2023.

* Provisional

Age group

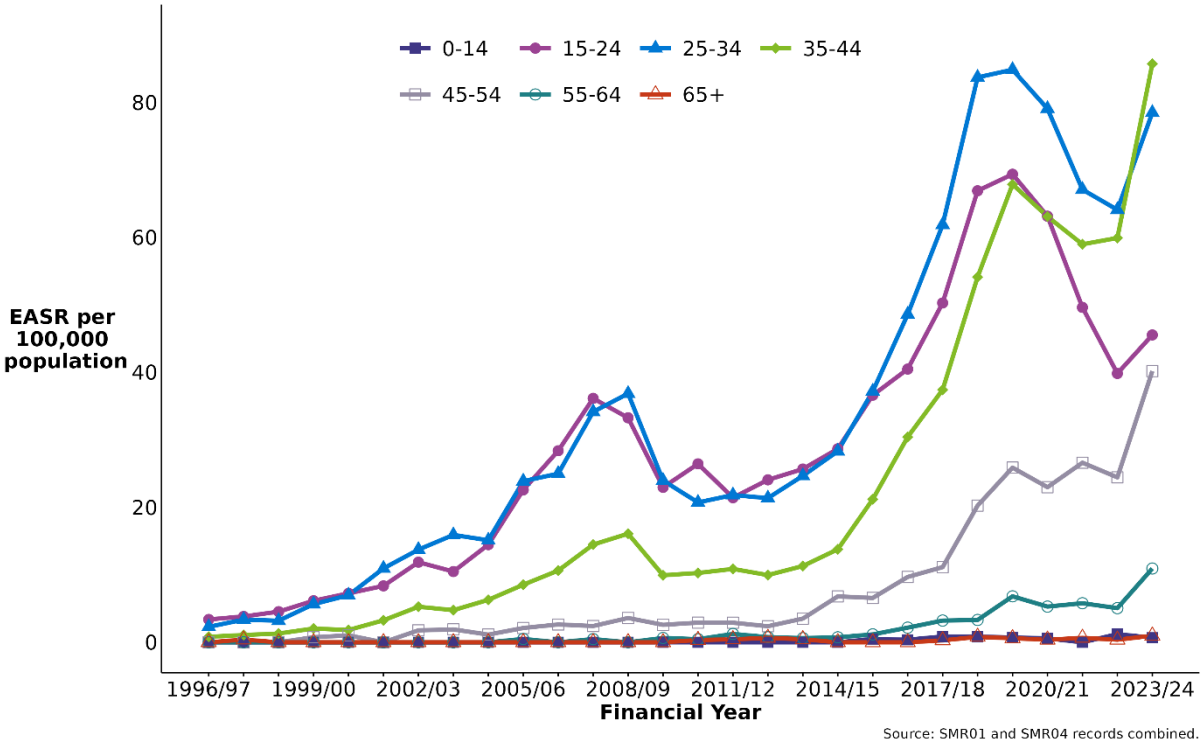
The most common age group of patients admitted for a cocaine-related hospital stay in 2023/24 was 35 to 44 years (86 patients per 100,000); exceeding rates of patients aged 25 to 34 years (78 patients per 100,000) for the first time in the time series (Figure 3.4). Until 2019/20, patients aged 35 to 44 were the third most common age group to experience a cocaine-related hospital stay. From 2020/21 onwards, patient

rates in the 15 to 24 year age group decreased more sharply than in the 35 to 44 year age group.

Cocaine-related patient rates among people aged 15 to 34 years (age groups 15-24 and 25-34 years) were very similar until 2015/16. After this, the 25 to 34-year patient rate increased more rapidly, reaching a peak of 85 patients per 100,000 in 2019/20, compared with a peak of 69 patients per 100,000 among people aged 15 to 24 years. Patient rates in both age groups declined between 2020/21 and 2022/23, before increasing again in 2023/24.

Patient rates in the youngest and oldest age groups remained consistently low (between 0 and 1 per 100,000 in each year) over the time series.

Figure 3.4: Cocaine-related general acute/psychiatric patient[1] rates[2], by age group (Scotland; 1996/97 to 2023/24*)



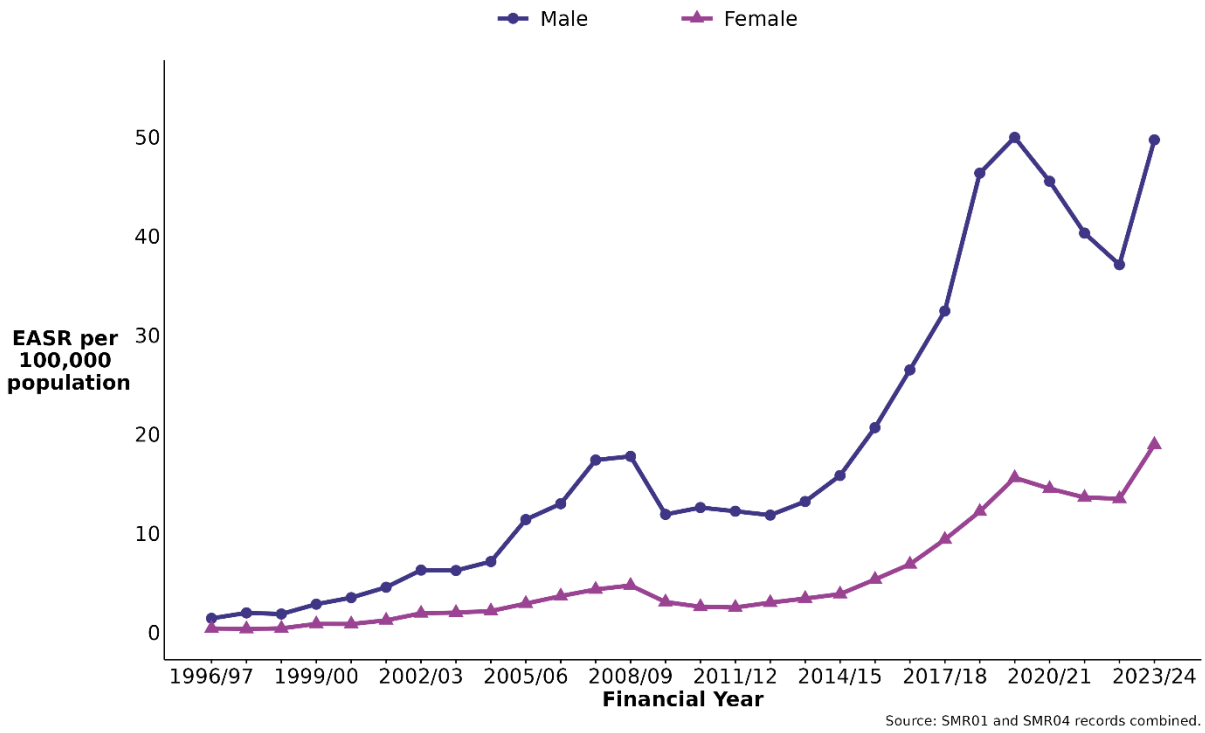
1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional

Sex

In 2023/24 72% of patients who had a cocaine-related hospital stay were males (1,299 patients, 50 patients per 100,000 population). The rate for female patients was 19 patients per 100,000 population (513 patients); a new peak in the time series (previously 16 patients per 100,000 in 2019/20). Patient rates for males have exceeded those of females throughout the time series and the difference between these has widened over time (Figure 3.5).

Figure 3.5: Cocaine-related general acute/psychiatric patient[1] rates[2], by sex (Scotland, 1996/97 to 2023/24*)



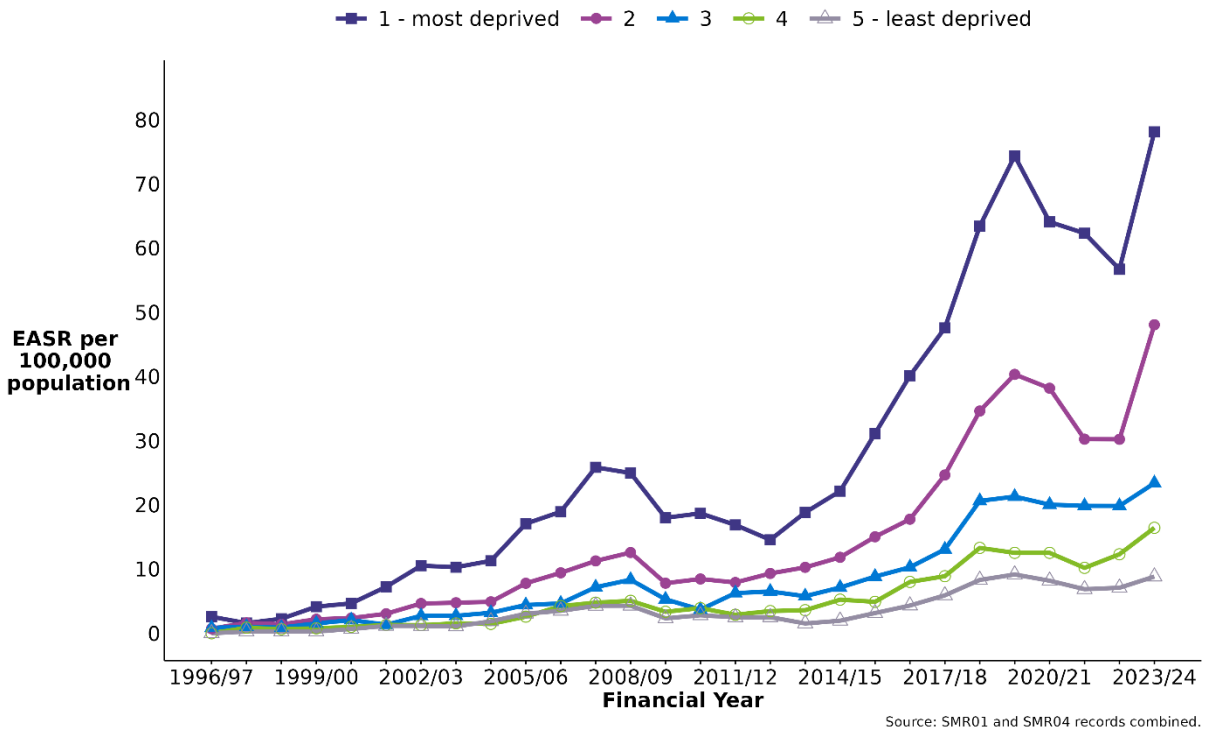
1. See **Glossary** for definitions of stays, patients and new patients
2. Uses European Standard Population 2013 and National Records of Scotland 2023 mid-year population estimates.

* Provisional

Deprivation

Cocaine-related patient rates across all deprivation quintiles increased during 2023/24 compared to 2022/23, and exceeded or matched previous peaks across the time series (Figure 3.6). Patients from the most deprived areas remained the most likely to experience a cocaine-related hospital stay (45% of patients, 822 patients, 78 patients per 100,000 population). In comparison, 51% of patients admitted for an opioid-related stay were from the most deprived areas (1,827 patients, 183 patients per 100,000).

Figure 3.6: Cocaine-related general acute/psychiatric patient[1] rates[2], by deprivation quintile (Scotland, 1996/97 to 2023/24*)



1. See **Glossary** for definitions of stays, patients and new patients and an explanation of deprivation measures (Scottish Index of Multiple Deprivation)
2. Uses European Standard Population 2013 and National Records of Scotland 2022 mid-year population estimates.

* Provisional

Conclusion

Over the most recent 10-year period, the rate of cocaine-related hospital stays increased across all indicators and patient demographics.

- Across Scotland, rates of cocaine-related hospital stays increased roughly four-fold between 2013/14 and 2023/24. Rate increases were seen in all Scottish NHS Boards, with wide variations in the extent of change over time.

- In terms of age, patient rates among people aged 35 to 44 years exceeded those of all other age groups for the first time in the analysis period, overtaking the younger age groups which had previously experienced the highest rates.

While a broader analysis of this trend is beyond the scope of this publication, it is important to note that these changes in drug use trends and harms extend beyond hospital admissions. Similar increases in cocaine use and detections have been observed in other PHS data sources, including **DAISy**, where cocaine was the most commonly reported drug for which people sought specialist treatment in 2023/24, and **RADAR**, which has highlighted increases in cocaine detections and harms across a range of real-time data sources. PHS is working with partners to investigate these trends and expand the scope of information available on the prevalence and harms of cocaine use.

Glossary

ADP

Alcohol and Drug Partnership (ADP) describes which of the 31 ADP areas the patient lives in, based on the postcode of their home address. ADPs are multi-agency partnerships established by the Scottish Government to deliver a co-ordinated approach to alcohol and drug related work in all local areas. This work is based on a partnership approach involving the statutory, voluntary and private sectors, and engaging the wider community. For more information about ADPs go to the **Scottish Government website.**

Cannabinoids

Drugs related to cannabis. The cannabis plant contains various cannabinoids. The primary psychoactive compound in cannabis is the cannabinoid tetrahydrocannabinol (THC). In addition to natural cannabinoids (for example, THC), this group of drugs includes synthetic (artificial) cannabinoids which are the psychoactive compounds in designer drugs with names like ‘Spice’. Cannabidiol (also known as CBD) is another cannabinoid which is recognised within this group of drugs. Many CBD preparations available in the UK (for example, cannabis oil) do not contain THC and therefore do not have a psychoactive effect. Other preparations with a higher THC concentration may produce a strong psychoactive effect. Use of cannabinoids can lead to a state of relaxation, euphoria, introspection, anxiety, paranoia, increase in heart rate and hunger. Synthetic cannabinoids have also been associated with seizures, difficulties breathing and death.

Cocaine

A strong stimulant which is commonly snorted, inhaled as smoke, or dissolved and injected into a vein. This group includes powder cocaine and crack cocaine. The effects of cocaine may include loss of contact with reality, an intense feeling of happiness, or agitation, a fast heart rate, sweating and large pupils. High doses can result in very high blood pressure or body temperature. After a short period of use, there is a high risk that dependence will occur. Its use is associated with stroke, heart attack, lung problems, blood infections, and sudden cardiac death.

Controlled drug

A controlled drugs is a substance that is regulated under **Misuse of Drugs Act (1971)** due to its potential to cause dependency or harm.

Day case

A patient who has a planned admission to a specialty for clinical care. The patient is not expected to, and does not, remain overnight.

Deprivation

If an area is identified as deprived, this can relate to the fact that the people who live there have a low income, it can also mean that there are fewer resources and opportunities in that area. The **Scottish Index of Multiple Deprivation** (SIMD) is a relative measure of deprivation across small areas in Scotland, called data zones. A data zone is a small geographical area with up to 1,000 residents. SIMD has over 30 indicators in 7 domains (income, employment, education, health, housing, geographical access to services and crime) at data zone level, which have been combined into an overall index. Rates are reported by quintiles (see quintile). SIMD is updated roughly every three years and the version used depends on the year when the patient was discharged from hospital. More information can be found on the **PHS SIMD webpage** and in the Deprivation section in **Methods**.

Diagnosis grouping

Diagnosis grouping is broken down into: Mental & Behavioural, Overdose, and Any diagnosis (a combination of Mental & Behavioural and Overdose). Each of these groups is based on ICD10 diagnostic codes. See Analytical definitions section in **Methods** for further details.

Discharge

The end of a period of health care in a hospital setting. Each period of health care begins with a referral or admission and is ended by a discharge.

EASR

European Age-sex Standardised Rate (EASR) – the rate that would have been found if the population in Scotland had the same age and sex composition as the

hypothetical standard European population. See EASR section in **Methods** for further details.

Hallucinogens

Hallucinogens are a group of drugs that alter perception of surroundings, including visual and auditory effects and changes to consciousness and emotion. These substances may be synthetic, for example LSD (lysergic acid diethylamide) or naturally occurring, for example psilocybin (the active ingredient found in 'magic mushrooms'). Most hallucinogens are not known to have long-term physical toxicity or risk of dependence; however, long term use may lead to psychological harm or exacerbation of existing mental health conditions. Unintentional injury as a result of behavioural changes due to the effects of a hallucinogenic substance is also a risk.

Heroin

See Opioids.

ICD

The International Statistical Classification of Diseases and Related Health Problems (ICD) is used to record diagnoses following hospital discharge, including deaths. The 10th revision is used in the analysis in this publication.

Inpatient

A patient who occupies an available staffed bed in a hospital. This includes patients who remain overnight (whatever the original intention) or who are expected to remain overnight but are discharged earlier.

Methadone

See Opioids.

'Multiple/other' drug type

The 'multiple/other' drugs category includes volatile solvents (such as glue, gases or aerosols), multiple drug use and use of other psychoactive substances (for example, ecstasy). This category may also be used to indicate multiple drug use when individual substances are not known or cannot be coded using existing diagnosis (ICD10) codes.

New patient

A person admitted to hospital as an inpatient or day case patient within a given time period (for example, a financial year), who has not had a similar drug-related stay in hospital within the previous ten years.

NHS Board

One of 14 Scottish territorial NHS Boards in which the patient lives, based on the postcode of their home address.

People who are resident outside Scotland are included in a separate category labelled 'Outside Scotland'. Those with no fixed abode or unknown are placed in the category 'Other/Not Known'.

Opioids

Drugs similar to heroin or morphine. Opioids include opiates (drugs derived from opium, including morphine and heroin (diamorphine)) and semi-synthetic and synthetic drugs such as methadone, hydrocodone, oxycodone and fentanyl. Opioids are most often used medically to relieve pain. The side effects of opioids may include itchiness, sedation, nausea, respiratory depression, constipation, and euphoria. Frequent, escalating use of opioids typically results in dependence. Tolerance develops with continuous use, requiring increasing doses and leading to a withdrawal syndrome upon stopping suddenly. Accidental overdose or use alongside other depressant drugs commonly results in death from respiratory depression.

Other stimulants

The 'other stimulant' category includes stimulants other than cocaine (such as caffeine, amphetamine, methamphetamine, BZP, PMA). See the **FRANK website** for more information about specific substances.

Patient

A person admitted to hospital as an inpatient or day case patient within a given time period (for example, a financial year).

Provisional data

Submissions of data from hospitals are not yet complete. When all submissions have

been received, the final figure may be different to that reported at the time of publication.

Quintile

A fifth of the Scottish population, as defined by the SIMD (see Deprivation above). The five groups of data zones range from the most deprived (1) to the least deprived (5).

Sedatives/ hypnotics

Drugs that induce sedation by reducing irritability or excitement. This group of drugs includes ‘prescribable’ benzodiazepines (drugs such as diazepam), ‘street’ benzodiazepines (for example, etizolam and alprazolam) and z-hypnotics (for example, zopiclone). While low doses reduce anxiety and produce a peaceful effect, higher doses may result in slurred speech, staggering gait, poor judgement and slow, uncertain reflexes. Higher doses may also be used as a hypnotic to induce sleep. In the event of an overdose, or if combined with another sedative, many of these drugs can cause unconsciousness and even death.

Stay

A period of health care in a hospital setting known as a continuous inpatient stay (CIS). A CIS is made up of individual episodes (where the patient is under the care of an individual consultant). A patient may have a number of stays during a given reporting period. Each stay begins with a referral or admission and is ended by a discharge.

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Further information

Further information and data for this publication are available from the **publication page** on our website.

The next release of this publication will be Winter 2025.

Open data

Data from this publication is available to download from the **Scottish Health and Social Care Open Data portal**.

Rate this publication

Let us know what you think about this publication via. the link at the bottom of this **publication page** on the PHS website.

Appendices

Appendix 1 – Methods

SMR01 – General acute inpatient and day case return

Information about stays in general acute hospitals, where drug use was diagnosed as a factor in the patient's treatment are derived from the general acute inpatient and day case return (SMR01).

SMR01 is an episode-based patient record relating to all inpatient and day cases discharged from hospitals (including paediatric facilities) in NHS Scotland. It does not include records from mental health, maternity, neonatal and geriatric long stay specialities. The SMR01 basic data set encompasses patient identification and demographic information, episode management information and general clinical information. Items such as waiting time for inpatient or day case admission and length of stay may be derived from the episode management information. A record is generated for each inpatient and day case episode, of which there are about 1,500,000 each year. Attendances at Accident and Emergency Departments that do not result in an admission are not included. Up to six diagnoses are recorded per SMR01 episode.

SMR04 – Mental health inpatient and day case return

Information about stays in psychiatric hospitals, where drug use was diagnosed as a factor in the patient's treatment are derived from the mental health inpatient and day case return (SMR04).

On the SMR04 form, up to six separate diagnoses can be recorded on both the admission and discharge parts of the record. Diagnosis on discharge may differ from diagnosis on admission. Discharge diagnoses are reported in these statistics as they are regarded as more accurate than admission diagnoses. A diagnosis in the first

position is regarded as the main diagnosis. A diagnosis in any of the six positions (main and supplementary) is referred to as ‘in any position’.

SMR01 and SMR04 – 'Any hospital type'

Combined analysis of stays includes all general acute and psychiatric activity. Patients are counted only once per financial year, even though the same patient may have stayed in both general acute and psychiatric hospitals on multiple occasions in that time period.

The data presented in the combined analysis are derived from both general acute (SMR01) and psychiatric (SMR04) drug-related hospital records.

Analytical definitions

A period of health care in a hospital setting is known as a continuous inpatient stay (CIS). A CIS is made up of individual episodes (where the patient is under the care of an individual consultant). A patient may have more than one stay and hence the number of patients in a specific financial year can be less than the total number of stays for that period. Also, patients may have drug-related stays in multiple geographical areas during a financial year, meaning that the sum of stays across all geographical areas may not equal the Scotland total.

For the purposes of this analysis, a CIS is counted as associated with drug use if any of the episodes of which it is made up include a drug use diagnosis in any position (main position refers to primary diagnosis and five supplementary positions refer to secondary diagnoses). Drug use is recorded using the International Classification of Diseases 10th Revision (ICD10) Codes.

The following codes were used in this analysis:

i) To define a drug-related hospital stay:

Table A1.1: Drug-related hospital stay diagnosis codes

ICD 10 Code	Description
F11	Mental and behavioural disorders due to: Opioids
F12	Mental and behavioural disorders due to: Cannabinoids
F13	Mental and behavioural disorders due to: Sedatives/Hypnotics
F14	Mental and behavioural disorders due to: Cocaine
F15	Mental and behavioural disorders due to: Other Stimulants
F16	Mental and behavioural disorders due to: Hallucinogens
F18	Mental and behavioural disorders due to: Volatile Solvents
F19	Mental and behavioural disorders due to: Multiple/Other Drugs
T40.0	Poisoning by narcotics: Opium
T40.1	Poisoning by narcotics: Heroin
T40.3	Poisoning by narcotics: Methadone
T40.5	Poisoning by narcotics: Cocaine
T40.6	Poisoning by narcotics: Unspecified Narcotics
T40.7	Poisoning by narcotics: Cannabis
T40.8	Poisoning by narcotics: LSD
T40.9	Poisoning by narcotics: Unspecified Hallucinogens
For the T-codes listed below, a CIS is counted if there is a presence in the same CIS of at least one of the ICD-10 codes listed above	
T40.2	Poisoning by narcotics: Other opioids
T40.4	Poisoning by narcotics: Other synthetic narcotics
T42.3	Poisoning by antiepileptic, sedative-hypnotic and antiparkinsonism drugs: Barbiturates
T42.4	Poisoning by antiepileptic, sedative-hypnotic and antiparkinsonism drugs: Benzodiazepines
T43.6	Poisoning by psychotropic drugs NEC: Psychostimulants with abuse potential
T52	Toxic effect of organic solvents
T40.9	Poisoning by narcotics: Unspecified Hallucinogens

ii) To define a drug-related mental and behavioural hospital stay:

Table A1.2: Mental and behavioural hospital stay diagnosis codes:

ICD 10 Code	Description
F11	Mental and behavioural disorders due to: Opioids
F12	Mental and behavioural disorders due to: Cannabinoids
F13	Mental and behavioural disorders due to: Sedatives/Hypnotics
F14	Mental and behavioural disorders due to: Cocaine
F15	Mental and behavioural disorders due to: Other Stimulants
F16	Mental and behavioural disorders due to: Hallucinogens
F18	Mental and behavioural disorders due to: Volatile Solvents
F19	Mental and behavioural disorders due to: Multiple/Other Drugs

iii) To define a drug-related overdose hospital stay (referred as Overdose in the dashboard)

Table A1.3: 'Overdose' hospital stay diagnosis codes:

ICD 10 Code	Description
T40.0	Poisoning by narcotics: Opium
T40.1	Poisoning by narcotics: Heroin
T40.3	Poisoning by narcotics: Methadone
T40.5	Poisoning by narcotics: Cocaine
T40.6	Poisoning by narcotics: Unspecified Narcotics
T40.7	Poisoning by narcotics: Cannabis
T40.8	Poisoning by narcotics: LSD
T40.9	Poisoning by narcotics: Unspecified Hallucinogens
For the T-codes listed below, a CIS is counted if there is a presence in the same CIS of at least one of the ICD-10 Mental and Behavioural Disorder codes F11-F16, F18 or F19, or one of the ICD-10 Poisoning by Narcotics codes listed above	
T40.2	Poisoning by narcotics: Other opioids
T40.4	Poisoning by narcotics: Other synthetic narcotics
T42.3	Poisoning by antiepileptic, sedative-hypnotic and antiparkinsonism drugs: Barbiturates
T42.4	Poisoning by antiepileptic, sedative-hypnotic and antiparkinsonism drugs: Benzodiazepines
T43.6	Poisoning by psychotropic drugs NEC: Psychostimulants with abuse potential
T52	Toxic effect of organic solvents

For data on drug type, there may be some double counting, as stays, patients and ‘new patients’ may each be associated with multiple drug types (e.g. diagnoses of both opiate and cocaine use). If multiple drugs have been noted in case notes, the advised coding is to record each substance in a separate diagnosis position where possible. Sometimes the coder may be forced to use the unspecific ICD-10 code F19 (‘multiple/other drugs’), for example, if case notes only state ‘multiple/other drugs’ there is no way of identifying which substances were involved. Sometimes the F19

code may be used if the patient has many other diagnoses recorded, leaving insufficient space to record specific drugs separately.

When gathering information from stays, demographic data (age, gender, deprivation quintile) are extracted from the first episode of the stay (thus corresponding most closely to the circumstances of the patient at the point they entered hospital). However, the allocated year is defined by the date of discharge. Therefore, a stay spanning two financial years (e.g. 2012/13 and 2013/14) will be counted as having occurred in the most recent of those years, or when the patient was discharged (2013/14 in this example).

Some caution is necessary when using these data as (a) drug use may only be suspected and may not always be recorded by the hospital, and (b) where drug use is recorded, it may not be possible to identify which drug(s) may be involved.

In the length of stay analysis, length is measured from the date of initial admission of the CIS to the ultimate date of discharge for that stay.

An inpatient admission is categorised as an emergency, urgent or routine inpatient admission except for maternity and neonatal admissions. The appropriate admission category depends on the clinical condition of the patient as assessed by the receiving consultant. This measure is not standardised. More details can be found in the **PHS Data Dictionary**.

When figures are broken down by geographical area or age the numbers in some categories can be very small. In these cases both differences between categories and trends over time should be interpreted with caution because they may be misleading.

Statistical disclosure control has been applied to protect patient confidentiality. Therefore, the figures presented in these statistics may not be additive and may differ to those reported in previous publications.

European Age-sex Standardised Rates (EASR)

European Age-sex Standardised Rates (EASRs) are calculated for hospital activity indicators because the overall rate may vary with the age-sex structure of the populations. The direct standardisation method was used, with the age-sex specific rates of the local population applied to the age-sex structure of a standard population. This gives the overall rate that would have occurred in the local population if it had the same age-sex profile as the standard population. It allows valid comparisons to be made between local areas and other countries with differing population age-sex structures. In the dashboard, EASRs are expressed per 100,000 population per financial year.

The latest available National Records of Scotland (NRS) mid-year population estimates were used in the EASR calculations for NHS Board and Alcohol and Drug Partnership (ADP) analysis and for Scottish Index of Multiple Deprivation analysis. Please note that for this April 2025 release, deprivation rates for 2023/24 are based on 2022 mid-year population estimates for Data Zones. Mid-year population estimates for 2023 produced by NRS were not available at the time of publication. When these become available, data will be re-analysed and a planned revision of these statistics will be undertaken if a significant impact on the 2023/24 figures is seen.

The European Standard Population (ESP) is used to calculate EASRs within this publication. The ESP, which was originally introduced in 1976, was revised in 2013. Before publication of 2012/13 data in February 2014, the Drug Related Hospital Statistics publication used ESP1976 to calculate EASRs. Since 2014, the ESP2013 has been used to calculate EASRs for all years (including those before 2012/13). Therefore, findings from publications since February 2014 are not comparable with earlier publications. See Appendix A1 2013/14 report (PDF) for further details.

Deprivation

Information on deprivation is reported by the Scottish Index of Multiple Deprivation (SIMD) quintiles in the dashboard.

Socio-economic deprivation describes a range of individual and environmental factors whose effects can accrue over time. Information describing income, employment, education and other measures of affluence or deprivation are not readily available but an estimate can be made by measuring characteristics of the area in which an individual resides. If an area is identified as deprived, this can relate to the fact that the people who live there have a low income, it can also mean that there are fewer resources and opportunities in that area. SIMD has over 30 indicators in 7 domains (income, employment, education, health, housing, geographical access to services and crime), which are combined into an overall index. Neighbourhoods are ranked on the basis of their SIMD score and assigned to equally-sized groups representing different levels of deprivation (five groups (quintiles) in this instance).

Drug-related general acute hospital data are used as the basis of the indicator 'Hospital stays (CIS) related to drug use: standardised ratio' within the Health domain used for SIMD calculation. While drug-related hospital admission data contribute to the calculation of SIMD, the weight of these data within the overall SIMD index is minor (0.84%). On this basis, the use of SIMD within deprivation analysis in the DRHS publication is not considered to introduce substantial methodological bias.

See **Scottish Government website** for further details about SIMD.

When data are analysed, different levels of SIMD quintiles can be used depending on the aim of the analysis. For further information on how SMID is used within our dashboard please see **Appendix 2**.

A minor change to the ICD codes used to identify specific substances in drug poisoning/overdoses stays was made in November 2022 and retrospectively applied to earlier year's data. Therefore, the numbers and rates presented in this publication may be different to those presented in publications prior to 2022. See **Appendix 3** for more detail.

Appendix 2 – Deprivation

The accompanying **Data Explorer dashboard** uses SIMD in two different ways:

National SIMD

For the purpose of comparing different locations (for example, Scotland, NHS Board and ADP figures) on an equal basis, 'within-Scotland SIMD' quintiles should be used. To compare different locations, select the 'Location comparison' option in the Deprivation tab of the **Data Explorer dashboard**. National SIMD analysis only was used in all DRHS publications prior to the release of 2018/19 data on 27 October 2020.

Local SIMD

The release of 2020/21, 2021/22 and 2022/23 data also includes analysis based on within-NHS Board or within-ADP quintiles. This provides a summary of the deprivation characteristics of a specific geographical area in relation to the population of that location (see the example below for a description of the difference between National SIMD and Local SIMD). The results of this analysis cannot be compared with other locations. To generate a deprivation profile based on Local SIMD quintiles, select the 'Location profile' option in the Deprivation tab of the **Data Explorer dashboard**. Note that within-NHS Board quintiles are applied to NHS Board locations and within-ADP quintiles are applied to ADPs when 'Location profile' is selected.

There are no neighbourhoods in NHS Western Isles which are comparable with the most deprived neighbourhoods in Scotland and classified as SIMD1 on a national basis. Therefore, if NHS Western Isles is analysed on a 'within-Scotland' or 'National SIMD' basis, there are no people with drug-related hospital stays from SIMD1 (stays are most common among people from SIMD2 neighbourhoods) (see Figure A2.1). However, it is possible to assign the most deprived 20% of neighbourhoods within NHS Western Isles to SIMD1 on the basis of the Local SIMD (within-NHS Board) analysis as this is based on differences in deprivation within the NHS Western Isles

population (see Figure A2.1). The main difference between National SIMD or Local SIMD is the ability to compare either within Scotland or only within the local area.

Figure A2.1: Analysis based on 'National SIMD' (or 'within-Scotland')

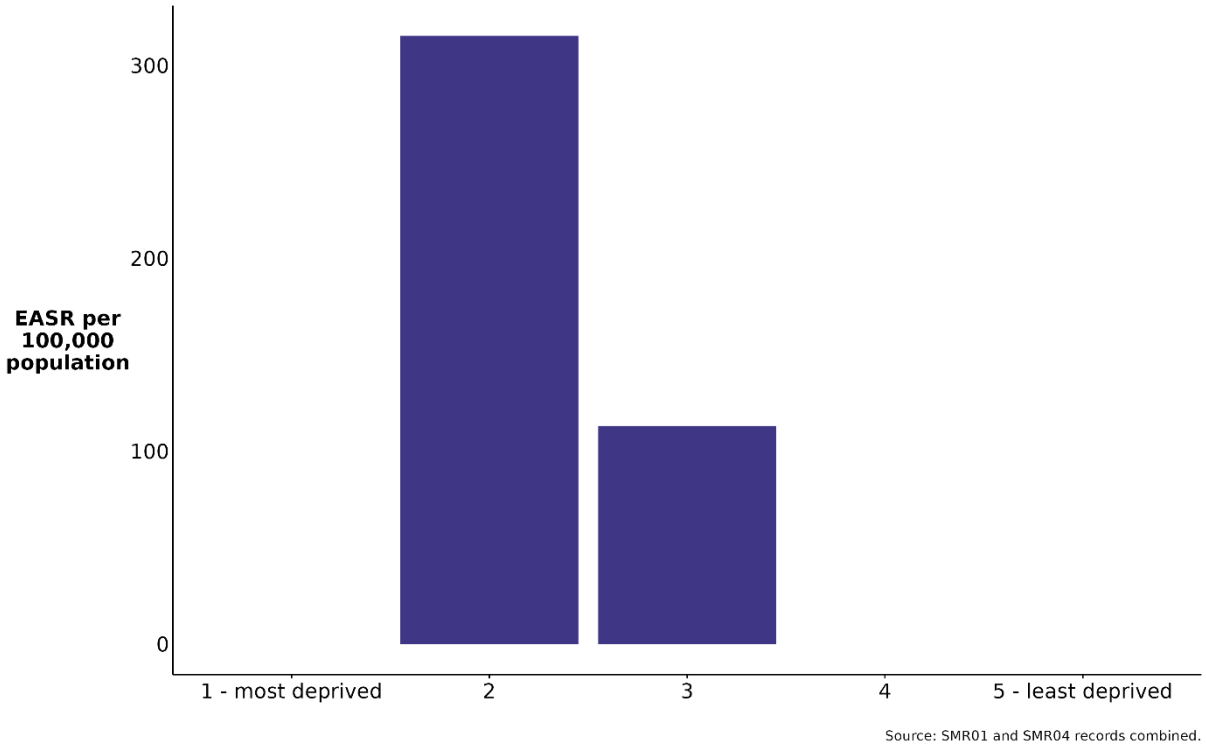
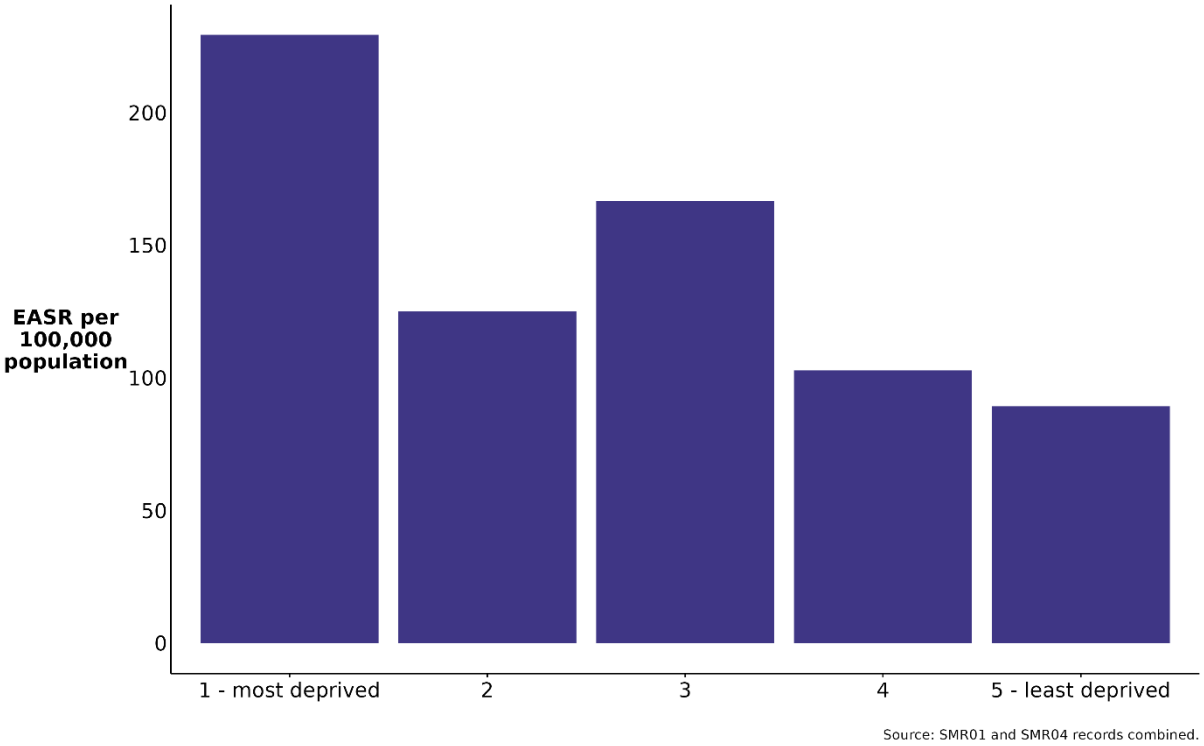


Figure A2.2: Analysis based on ‘Local SIMD’ (or ‘within-NHS Board’)



PHS’ SIMD quintiles are constructed using a population weighting method. This method is different from how the Scottish Government (SG) creates SIMD quintiles. For more detail see population weighting section on the **PHS SIMD webpage**.

Appendix 3 – Background information

This report presents the number of drug-related hospital stays, the number and characteristics of patients admitted to hospital, the substances involved and the geographical variations within Scotland.

Hospital activity data are collected across the NHS in Scotland and are based on nationally available information routinely drawn from hospital administrative systems across the country. The principal data sources are the SMR01 (general acute inpatient and day case) and SMR04 (mental health inpatient and day case) returns.

Information is provided for financial years 1996/97 to 2023/24. The following differences in the time periods used should be noted:

- Time trends for 'new patients' start from 2006/07. Before 1996/97, diagnosis coding within SMR01 and SMR04 records was based on International Classification of Diseases 9th Revision (ICD9). Information Services Division (ISD) (now Public Health Scotland (PHS)) introduced International Classification of Diseases 10th Revision (ICD10) coding into SMR from 1996 onwards. The coding of drug use diagnoses changed markedly between these two ICD versions. As the identification of 'new patients' incorporates a ten-year look back of SMR records, figures in the period from 1996/97 to 2005/06 would be based partly on ICD9 codes and would be likely to overestimate the number of 'new patients' throughout this period.

- Alcohol and Drug Partnerships (ADPs) were established in 1997. Therefore, time trends for 'ADP of residence' locations start from 1997/98.

In autumn 2018, Public Health Scotland (PHS) conducted a **customer consultation** in relation to a proposed change to include stays due to drug poisoning/overdose in the definition of a drug-related hospital stay. Responses to this consultation indicated that users agreed with the proposed change. Therefore, the revised definition was implemented and came into effect for the **Drug-Related Hospital Statistics** report,

published on 28 May 2019. A full report describing the results of the consultation is available **here**.

- In January 2020, PHS conducted a further customer consultation in relation to: Drug-Related Hospital Statistics dashboard usability; data visualisation; dashboard content; and the Drug-Related Hospital Statistics publication report. Responses to this consultation indicated that users were broadly supportive of the dashboard and its features but suggested some improvements, many of which are implemented in the release of these statistics on 27 October 2020. A full report describing the results of this consultation is available **here**.

- Following the above-mentioned consultations, the definition of drug poison/overdose stays comprised selected 'T' codes from the ICD 10 chapter of Injury, Poisoning and certain other consequences of external causes. Eight of these codes could be used to identify a drug poisoning/overdose stay alone, and six further codes required any of the mental and behavioural diagnosis codes ('F' codes) in addition to be considered a relevant stay. As part of our continuous process of review and quality improvement, a logical inconsistency was identified in this approach. Following consultation with clinical colleagues, a minor change to the definition was made, allowing either an F code, or one of the eight main T codes. See the appendices of **previous reports** for detail.

Appendix 4 – Publication metadata

Publication title

Drug-Related Hospital Statistics 2023/24

Description

Data relating to general acute and psychiatric hospital stays with a diagnosis of drug use. These data are presented at a national level and also broken down by demographic characteristics/local geographies.

Theme

Drugs, Alcohol, Tobacco and Gambling

Topic

Drugs

Format

PDF report with online dashboard

Data source(s)

General acute inpatient/day case records (SMR01)

Mental health inpatient/day case records (SMR04)

Date that data are acquired

SMR01: 23 January 2025

SMR04: 27 January 2025

Release date

15 April 2025

Frequency

Annual

Timeframe of data and timeliness

General acute (SMR01) - information from the period 01/04/1996 to 31/03/2024. Analysis based on the period 1996/97 to 2023/24.

Psychiatric (SMR04) - information from the period 01/04/1996 to 31/03/2024. Analysis based on the period 1997/98 to 2023/24.

General acute & psychiatric combined (SMR01 & SMR04) - information from the period 01/04/1996 to 31/03/2024. Analysis based on the period 1996/97 to 2023/24.

Continuity of data

See **background information**.

Revisions statement

Revisions relevant to this publication

All data are revised annually to reflect any changes to analysis and to ensure the most complete information is presented. Data for the most recent financial year are labelled as provisional and may be subject to change in forthcoming publications. Minor revisions of this nature are often due to incomplete data returns at the time of the previous publication. Previous releases of these statistics were accompanied by a data trend dashboard, however this was decommissioned in 2023/24. All plots and commentary which would have been included in this dashboard are available in this report and accompanying **Data Explorer dashboard**.

Concepts and definitions

See **Glossary**.

Also, refer to:

Hospital Care - Background Information: **https://publichealthscotland.scot/our-areas-of-work/acute-and-emergency-services/hospital-care/overview/what-hospital-services-cover/**

ScotPHO - Drug Use: **http://www.scotpho.org.uk/behaviour/drugs/introduction**

Relevance and key uses of the statistics

Relevant to understanding substance use in Scotland. Statistics will be used for policy making and service planning.

Accuracy

Quality checks are conducted by Public Health Scotland (PHS). Figures are compared to previously published data and expected trends.

Completeness

Details of data submission issues are available on the **SMR completeness webpage**.

Comparability

The NHS Digital publishes figures on hospital admissions for drug-related mental health and behavioural disorders in England but should not be directly compared with published data from Scotland.

Accessibility

It is the policy of Public Health Scotland to make its websites and products accessible according to published guidelines. More information on accessibility can be found on the **PHS website**.

Coherence and clarity

Data are presented within an interactive dashboard workbook. Notes have been added to ensure technical terms can be understood.

Value type and unit of measurement

Numbers, percentages and European Age-sex Standardised Rates per 100,000.

Disclosure

The **PHS protocol on Statistical Disclosure Protocol** is followed to protect patient confidentiality.

Official statistics accreditation

Accredited official statistics

UK Statistics Authority assessment

Publication was accredited official statistics via the following reports:

- General hospital discharges (SMR01), Annual Release, accredited November 2012.

- Psychiatric hospital discharges (SMR04), accredited March 2017.

Report is now published as Drug-related Hospital Statistics.

Last published

16 April 2024

Next published

Winter 2025

Date of first publication

1998

Help email

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Date form completed

9 April 2025

Appendix 5 – Early access details

Pre-release access

Under terms of the 'Pre-release Access to Official Statistics (Scotland) Order 2008', PHS is obliged to publish information on those receiving pre-release access ('pre-release access' refers to statistics in their final form prior to publication). The standard maximum pre-release access is five working days. Shown below are details of those receiving standard pre-release access.

Standard pre-release access:

Scottish Government Department of Health and Social Care (DHSC)

NHS board chief executives

NHS board communication leads

Early access for management information

These statistics will also have been made available to those who needed access to ‘management information’, i.e. as part of the delivery of health and care.

Early access for quality assurance

These statistics will also have been made available to those who needed access to help quality assure the publication:

Appendix 6 – PHS and official statistics

About Public Health Scotland (PHS)

PHS is a knowledge-based and intelligence driven organisation with a critical reliance on data and information to enable it to be an independent voice for the public's health, leading collaboratively and effectively across the Scottish public health system, accountable at local and national levels, and providing leadership and focus for achieving better health and wellbeing outcomes for the population. Our statistics comply with the **Code of Practice for Statistics** in terms of trustworthiness, high quality and public value. This also means that we keep data secure at all stages, through collection, processing, analysis and output production, and adhere to the Office for National Statistics '**Five Safes**' of data privacy.