

# Publication Report



## Medicines for Mental Health

Financial Years 2004/05 to 2013/14

Publication date – 30 September 2014



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## Introduction

The [Government's Mental Health Strategy 2012-15](#) aims to improve mental health services and to promote mental wellbeing and prevent mental illness. There are seven key themes to the strategy:

- Working more effectively with families and carers
- Embedding more peer to peer work and support
- Increasing the support for self-management and self help approaches
- Extending the anti-stigma agenda forward to include further work on discrimination
- Focusing on the rights of those with mental illness
- Developing the outcomes approach to include personal, social and clinical outcomes
- Ensuring that we use new technology effectively as a mechanism for providing information and delivering evidence based services

Five main categories of medicines for the treatment of mental health problems are covered within this publication; Hypnotics & Anxiolytics, Antipsychotics and related drugs, Antidepressants, Drugs used for Attention Deficit Hyperactivity Disorder (ADHD) and Drugs for Dementia.

Drug therapy is just one way that these conditions are treated. Treatment could also involve social, psychological, behavioural or educational interventions or therapy.

Please note: ISD is not responsible for the contents of external Internet sites referenced in this publication report.

## Hypnotics & Anxiolytics

### Background

Hypnotics and Anxiolytics are used to treat insomnia and anxiety respectively. Insomnia is difficulty getting to sleep or staying asleep for long enough to feel refreshed the next morning, despite there being enough opportunity to sleep. The most common problem with insomnia is difficulty falling asleep (sleep-onset insomnia). An insomniac may also experience:

- waking in the night
- not feeling refreshed after sleep and not being able to function normally during the day
- feeling irritable and tired and finding it difficult to concentrate
- waking when they have been disturbed from sleep by pain or noise
- waking early in the morning

Anxiety is a feeling of unease, such as worry or fear, which can be mild or severe. Everyone experiences feelings of anxiety at some point in their life and feeling anxious is sometimes perfectly normal. However, people with generalised anxiety disorder (GAD) find it hard to control their worries. Their feelings of anxiety are more constant and often affect their daily life. There are several conditions for which anxiety is the main symptom. Panic disorder, phobias and post-traumatic stress disorder can all cause severe anxiety.

Further information about insomnia and anxiety can be found on this website:

<http://www.nhsinform.co.uk/mentalhealth>

### Drug Treatment

Hypnotics and Anxiolytics are indicated for the treatment of anxiety and insomnia as described by the [British National Formulary \(BNF\)](#) section 4.1.

- BNF 4.1.1 - Hypnotics are indicated for the relief of insomnia but only after the underlying causes have been established and treated. Long-term use of these drugs, especially Benzodiazepines, should be avoided.
- BNF 4.1.2 - Anxiolytics are indicated for short-term relief (two to four weeks only) of anxiety that is severe, disabling or causing unacceptable distress to the patient. Using these drugs to treat short-term mild anxiety should be avoided. In those instances where the patient has chronic anxiety, that is lasting more than four weeks, it may be more appropriate to use an antidepressant (BNF section 4.3).
- BNF 4.1.3 - The intermediate-acting Barbiturates have a place only in the treatment of severe intractable insomnia in patients already taking Barbiturates. Their use should be avoided in the elderly.

## Antipsychotics and related drugs

### Background

Antipsychotic drugs are used to treat psychoses and related disorders. These disorders are an abnormal condition of the mind. People experiencing psychoses may report hallucinations or delusional beliefs, and may exhibit personality changes and thought disorder. Depending on its severity, this may be accompanied by unusual or bizarre behaviour, as well as difficulty with social interaction and impairment in carrying out daily life activities.

Information on psychoses and related disorders, including treatment and prevalence, can be found on the following websites:

- [Royal College of Psychiatry](#)
- [Mind, a mental health charity](#)
- [Scottish Association for Mental Health](#)

### Drug Treatment

Section 4.2 of the [British National Formulary \(BNF\)](#) lists the drugs licensed for the treatment of psychoses and related disorders. This section contains three sub-sections:

- BNF 4.2.1 - Antipsychotic drugs, also known as Neuroleptics. Severe anxiety attacks can also be treated, in the short term, with Antipsychotics.
- BNF 4.2.2 - Antipsychotic Depot Injections. Long-acting injections used for maintenance therapy, especially when compliance with oral treatment is unreliable.
- BNF 4.2.3 - Antimanic drugs - Used to control acute attacks and prevent their recurrence.

Antipsychotic drugs (BNF 4.2.1) can be divided into two classes:

- The older 'Typical' (or conventional) Antipsychotics were developed in the 1950s, principally to treat Schizophrenia. These can be further divided into the low and high potency drugs. For example, Fluphenazine and Haloperidol are examples of high-potency Antipsychotics, and Chlorpromazine is an example of a low-potency Antipsychotic. The high-potency drugs tend to be associated with Extrapyramidal (EPS) side effects (tremors, muscle spasms, irregular muscle movements etc.). EPS side effects are less evident with the low potency drugs.
- Atypical Antipsychotics are used principally to treat Schizophrenia, but can be used to treat other conditions. The first Atypicals, (Clozapine and Risperidone) were introduced in 1994, followed by Olanzapine and Sertindole in 1996 (the latter was withdrawn in 2001 after concern was expressed about cardiac effects), Amisulpride and Quetiapine in 1997, Zotepine in 1998, with the latest drug, Aripiprazole, coming on to the market in 2004.

## Antidepressants

### Background

Antidepressant drugs are used to treat depression. Health professionals use the words depression, depressive illness or clinical depression to refer to depression. It is a serious illness and very different from the common experience of feeling unhappy or fed up for a short period of time. Depressed people may have feelings of extreme sadness that can last for a long time. These feelings are severe enough to interfere with daily life, and can last for weeks or months, rather than days.

Information on depression, its treatment and prevalence, can be found on the following website: [Depression Alliance](#).

### Drug Treatment

There are four types of antidepressant drugs, as described in the [British National Formulary \(BNF\)](#) section 4.3, which are used in the treatment of depression:

- BNF 4.3.1 - Tricyclic Antidepressants are used to treat depression, but also have a role to play in the treatment of migraine, panic disorder, obsessive compulsive disorder, recurrent headaches and in the relief of neuropathic pain.
- BNF 4.3.2 - MAOIs - Monoamine-oxidase inhibitors are used less frequently than either the Tricyclics or Selective Serotonin Re-uptake Inhibitors (SSRIs) and related antidepressants because of the high risk of dietary and drug interactions.
- BNF 4.3.3 - SSRIs - Selective Serotonin Re-uptake Inhibitors are a group of drugs used to treat depression and other conditions such as bulimia, panic disorder and obsessive-compulsive disorder.
- BNF 4.3.4 - Others - Drugs that do not fit any of the above categories. For example, Duloxetine inhibits the re-uptake of both serotonin and noradrenaline and is therefore termed a Serotonin and Noradrenaline Re-uptake Inhibitor (SNRI). Other drugs in this group are Flupentixol (also used in the treatment of psychoses), Mirtazapine, Reboxetine, Tryptophan and Venlafaxine.

It should be noted that antidepressant drugs are used for indications other than depression (e.g. migraine, chronic pain, myalgic encephalomyelitis (ME) and a range of other conditions). It is therefore likely that the statistics on these drugs do not relate solely to prescribing for depression.

## Drugs used for Attention Deficit Hyperactivity Disorder (ADHD)

### Background

Attention Deficit Hyperactivity Disorder (ADHD) and Attention Deficit Disorder (ADD) refer to a range of problem behaviours associated with poor attention span. These may include impulsiveness, restlessness and hyperactivity, as well as inattentiveness; behaviours that often prevent children from learning and socialising. ADHD is sometimes referred to as Hyperkinetic Disorder (HD).

The prevalence of ADHD among males is thought to be four times that of females<sup>1</sup>, which concurs with the published figures of patients by gender in this report.

[NHS Healthcare Improvement Scotland](#) completed a follow-up review of services for children and young people with ADHD, published in 2012.

### Drug Treatment

There are four drugs, as described in the [British National Formulary \(BNF\)](#) section 4.4, which are used in the treatment of ADHD or ADD:

- Atomoxetine (Strattera<sup>®</sup>)
- Amfetamines (Dexafetamine Sulphate (Dexedrine<sup>®</sup>))
- Lisdexamfetamine Dimesylate (Elvanse<sup>®</sup>)
- Methylphenidate Hydrochloride (Ritalin<sup>®</sup>, Concerta XL<sup>®</sup>, Equasym<sup>®</sup>, Equasym XL<sup>®</sup>, Medikinet<sup>®</sup>, Medikinet XL<sup>®</sup>, Tranquilyn<sup>®</sup>).

## Drugs for Dementia

### Background

Dementia is a disease that leads to a progressive loss of brain function typified by memory loss, confusion, speech difficulties and problems in understanding. There are over 100 different types of dementia. The most common forms are:

- Alzheimer's disease
- Vascular dementia
- Dementia with Lewy bodies
- Pick's disease
- Huntington's disease
- Alcohol-related dementia
- HIV / AIDS related dementia

It has been estimated that 75% of people diagnosed with dementia will either have Alzheimer's or vascular dementia or a combination of the two ([Alzheimer Scotland - Dementia Factsheet](#)). Dementia mainly affects older people, but can also occur in people as young as thirty due to either alcohol abuse or HIV / AIDS. Roth et al<sup>2</sup> estimated that 30% of people diagnosed with dementia have the mild form of the disease, 42% are at the moderate stage and 28% have severe dementia.

Detailed information on the various types of dementia can be found on the [Alzheimer Scotland](#) website and also on the website of the [Alzheimer's Society](#).

### Drug Treatment

No cure for dementia currently exists. However, drugs are available that will inhibit, albeit temporarily, the progress of the disease. The [British National Formulary \(BNF\)](#) lists four drugs that are licensed for the treatment of dementia:

- Donepezil hydrochloride (Aricept<sup>®</sup> & Aricept Evess<sup>®</sup>)
- Galantamine (Reminyl<sup>®</sup> & Reminyl XL<sup>®</sup>)
- Memantine hydrochloride (Ebixa<sup>®</sup>)
- Rivastigmine (Exelon<sup>®</sup>)

Memantine is the only drug licensed to treat moderate to severe dementia; all others are for use in the mild to moderate form of the disease. The [Scottish Medicines Consortium](#) had recommended that Memantine should not be used within the NHS in Scotland but this was superseded by [National Institute for Health and Clinical Excellence \(NICE\) guidance](#) issued in March 2011. The NICE Guidance recommended Memantine for managing both moderate and severe Alzheimer's in certain circumstances.



## Patient Based Analysis & Defined Daily Doses

Patient Based Analysis has been included in this publication at Scotland level since the September 2012 report, which published 2011/12 data. DDD trend data at NHS Board level have been retained to allow comparisons between NHS Boards (and with other countries) and to show longer trends over time. The inclusion of patient information is intended to further inform health decision-making in NHS Scotland.

### Patient Based Analysis

Patient based analysis is now possible because comprehensive patient identifiable data is available in the prescribing dataset. All NHS patients have a unique Community Health Index (CHI) number; this makes it possible to identify which prescription items have been dispensed for individual patients. Prior to April 2009, the proportion of prescriptions with a valid CHI number recorded was not high enough to make patient based analysis possible. For medicines used in mental health the CHI capture / completeness rates are now high enough to permit accurate patient analyses. The CHI capture rate for each topic contained within this report is as follows:

**Table 1: CHI Capture rates for Scotland by drug type 2009/10 to 2013/14**

Topic	2009/10	2010/11	2011/12	2012/13	2013/14
Hypnotics & Anxiolytics	90.8%	92.7%	93.2%	94.5%	96.0%
Psychoses & related disorders	91.1%	93.8%	94.3%	95.1%	96.5%
Antidepressants	93.4%	95.4%	95.9%	97.0%	98.2%
ADHD	87.6%	91.0%	91.8%	91.4%	93.3%
Dementia	84.0%	87.4%	87.0%	88.3%	92.1%

Table 1 shows the percentage of dispensed items that have a valid CHI number attached and are therefore included in the patient based analysis. This rate should be considered when interpreting any trends in patient data (see comments on this in the Interpretation of Results section below). CHI completeness is highest for GP prescribing. The rate is lower for some types of drugs (such as dementia drugs) because these drugs are often prescribed through clinics rather than GPs, although there are ongoing improvements in capturing CHI across all areas.

The patient count for any given year shows the total number of patients who have been dispensed at least one prescription item during the course of that year.

### Defined Daily Doses

Defined Daily Doses (DDDs) are a measure derived from data on international use of the substance in question. DDDs were developed by [the World Health Organisation \(WHO\)](#) and are defined as “the assumed average maintenance dose per day used on its main indication in adults”. The WHO states that “It should be emphasised that the defined daily dose is a unit of measurement and does not necessarily reflect the recommended or Prescribed Daily Dose”. DDDs do not provide an exact picture of drug use, but can be used to give a rough estimate of levels of drug consumption. By providing a fixed unit of

measurement, they allow the trend of drug consumption over time or for other regions or countries to be compared. Occasionally the WHO recommended DDD for a drug will change. The data in this report are presented by current DDD for all years in order to allow meaningful trend analysis.

### Advantages of Patient Analyses

In the past, the number of daily maintenance doses dispensed was used to produce an estimate of the proportion of population making daily use of these drugs. For example, 10 DDDs per 1,000 population per day correspond to a daily use of the drug by 1% of the population. This is an estimate based on the assumed daily maintenance dose and so does not show the actual proportion of the population being prescribed a particular medicine. Due to the improvement of CHI capture, it is now possible to carry out accurate patient based analyses, thereby making available information on the actual number of patients who have been dispensed a particular drug during a specified period.

### Interpretation of Results

When interpreting trends in patient counts over time, the underlying CHI completeness rate must also be considered. It is difficult to identify with certainty how much impact an increasing CHI completeness has on the number of patients identified. However, the evidence available suggests that the impact is small when considering the scale of change in CHI completeness presented in this report. CHI capture is based on number of items with a valid CHI attached; in reality, a single patient will have some items with a valid CHI and others without. The count of patients looks for 'at least one' item dispensed in a given period and analysis shows that most patients will be counted, even if not all items dispensed to them had a valid CHI attached. Variations in CHI capture over time for data presented in this report are not thought to be significantly affecting trends in patient counts.

**It should be noted that patient counts and DDDs are measuring different things.** The patient based figure counts the number of people who have been prescribed the drug within the specified time period (in this case a year), whereas the DDD is an estimate of the average number of people taking it on any one day during the year. The patient based figure will usually be higher, since some people might only be on the drug/s for a short period or at a low dose.

For example, in the DDD analysis, one person on a maintenance dose for 12 months will count the same as six people taking this drug for 2 months each. The patient based analysis will count all six people.

## Changes to the publication

### Dispensed items

Where one of several items on a form is not dispensed, it is marked as 'not dispensed' by the dispenser. Historically, these items were processed as if they were dispensed, resulting in items that appeared to have been dispensed but with zero costs associated. This accounted for around 0.25% of all items dispensed.

Recent work to improve the accuracy of prescribing data has included a change to ensure that these 'not dispensed' items are now excluded from both dispensed item counts and associated costs. This affects item counts in this publication from April 2013 onwards, albeit in a minor way.

### Population Estimates

The second change is that the populations in the tables have been updated to the NRS re-based estimates, based on the 2011 census. The rebased population estimates are only available for the current NHS Board boundaries while the data on patient charges for 2004/05 and 2005/06 are only available for the pre 2006/07 NHS Board boundaries. Therefore, NHS Board data are only shown for 2006/07 onwards (eight years trend data rather than ten). The national data continue to show a ten year trend. This only affects the tables showing DDDs per 1000 population per day.

For more detailed information about all these changes please see Appendix 1.

## References

1. Gaub M, Carlson CL. Gender Differences in ADHD: a meta-analysis and critical review. *J Am Acad of Child Adolescent Psychiatry* 1997; 36: 1036-45
2. Roth et al. (1998) CAMDEX, the Cambridge Examination for Mental Disorders of the Elderly. Cambridge University Press

## Key points

- Dispensing of antipsychotics, antidepressants, drugs for ADHD and drugs for dementia has been steadily increasing over the past ten years; dementia also showing a sharp increase in recent years. Dispensing of hypnotics and anxiolytics has remained stable in the past ten years.
- Increased dispensing of drugs classified as antidepressants should be interpreted with caution; a notable proportion of these drugs are prescribed at low dose for conditions other than depression.
- Trends in volume tend to be consistent with trends in patient counts and Defined Daily Doses over time.
- Costs do not necessarily follow the same patterns over time as volumes of mental health drugs dispensed and can show significant fluctuation; the reasons vary for different types of mental health drugs, but in general sharp increases in cost are usually due to drugs being in short supply and sharp decreases are usually due to drugs coming out of patent.
- All of the mental health drugs considered in this report show a consistent pattern of increasing volume dispensed with increasing patient deprivation. For elderly patient dispensed dementia drugs, this pattern is less pronounced, but still evident.
- Dispensing of most mental health drugs peaks for patients in middle age and is consistently higher for females, apart from dementia drugs which are predominantly dispensed to elderly patients and drugs for ADHD which are dispensed mainly to adolescent males.
- There is wide variation in dispensing of mental health drugs between NHS Boards (reflecting different populations and service provision), but the majority of NHS Boards show consistent changes in Defined Daily Dose over time.

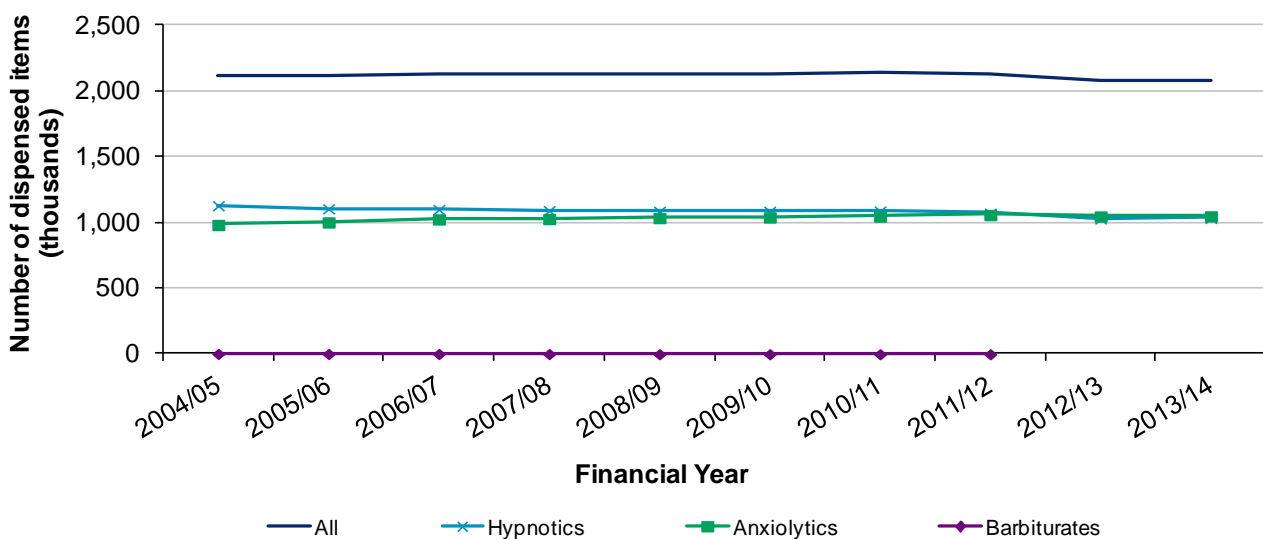
## Results and Commentary

### Hypnotics and Anxiolytics

#### NHS Scotland

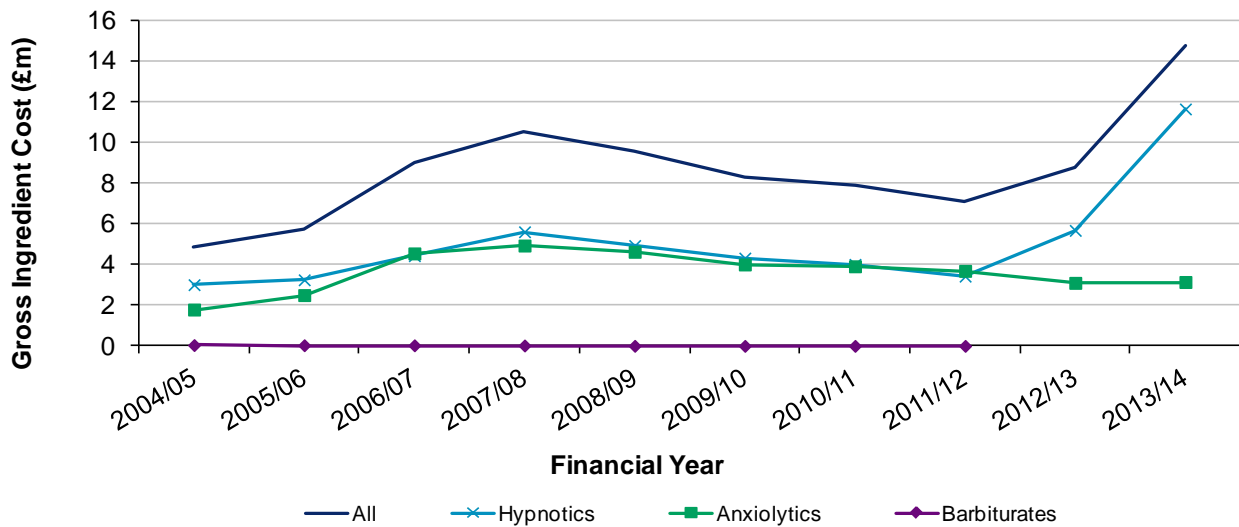
The total number of hypnotic and anxiolytic prescription items dispensed changed very little between 2012/13 and 2013/14 (only a slight increase of 0.3%). This follows the trend in which the overall number of items dispensed has remained largely stable over the last ten years (Figure 1). No Barbiturates have been dispensed after 2011/12.

**Figure 1: Number of dispensed items (thousands) – Hypnotics and Anxiolytics – 2004/05 to 2013/14**



The gross ingredient cost for hypnotics and anxiolytics has shown much more fluctuation than the number of dispensed items over the last ten years (Figure 2). The total gross ingredient cost for hypnotics and anxiolytics increased from £8.8million to £14.8million (an increase of 68.5%) between 2012/13 and 2013/14. Prior to 2012/13, the gross ingredient cost had been falling since 2007/08. The sharp movement shown between 2005/06 and 2007/08 was due to the process of price re-alignment (Figure 2). The increase from 2012/13 to 2013/14 is due in part to the higher price of Temazepam: it was in short supply during 2012 through to April 2014. The introduction of two unlicensed versions of Melatonin into the Part 7S section of the Scottish Drug Tariff also means that more Melatonin products, which were previously recorded as unlicensed ‘Dummy’ items, are now recorded in the correct BNF Section and so are included in this report.

**Figure 2: Gross Ingredient Cost (£) – Hypnotics and Anxiolytics – 2004/05 to 2013/14**



The total number of Defined Daily Doses per 1000 population dispensed hypnotics and anxiolytic drugs has fallen in Scotland over the past ten years: from 36.8 in 2004/05 to 29.3 in 2013/14.

Patient level data are available since April 2009 only. The CHI capture rate for hypnotics and anxiolytics in 2013/14 was 96.0%. It has been increasing year on year since 2009/10 (Table 2).

**Table 2: CHI Capture rate – Hypnotics and Anxiolytics**

Topic	2009/10	2010/11	2011/12	2012/13	2013/14
Hypnotics & Anxiolytics	90.8%	92.7%	93.2%	94.5%	96.0%

In Scotland, a total of 367,597 patients were dispensed at least one hypnotic or anxiolytic drug in 2013/14. This is slightly more than in 2012/13, an increase of 2.6% (from 358,273 patients in 2012/13) (Table 3). The patient level data demonstrates a similar trend to the data on the total number of items dispensed shown in Figure 1.

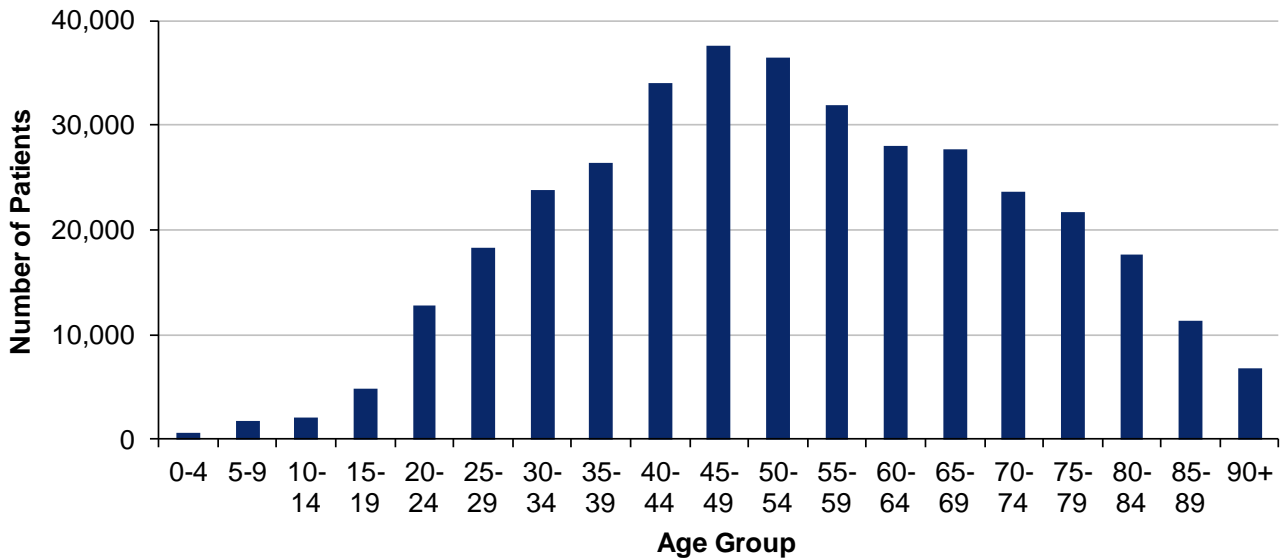
**Table 3: Patients by Gender – Hypnotics and Anxiolytics – 2009/10 to 2013/14**

Financial Year	Total	Male	Female
2009/10	350,357	126,341	224,016
2010/11	358,588	129,294	229,294
2011/12	363,823	131,659	232,164
2012/13	358,273	130,326	227,947
2013/14	367,597	135,561	232,036

In 2013/14, 63.1% of patients who received treatment with a hypnotic or anxiolytic drug were female while 36.9% were male. This is consistent with previous years for which data are available (Table 3).

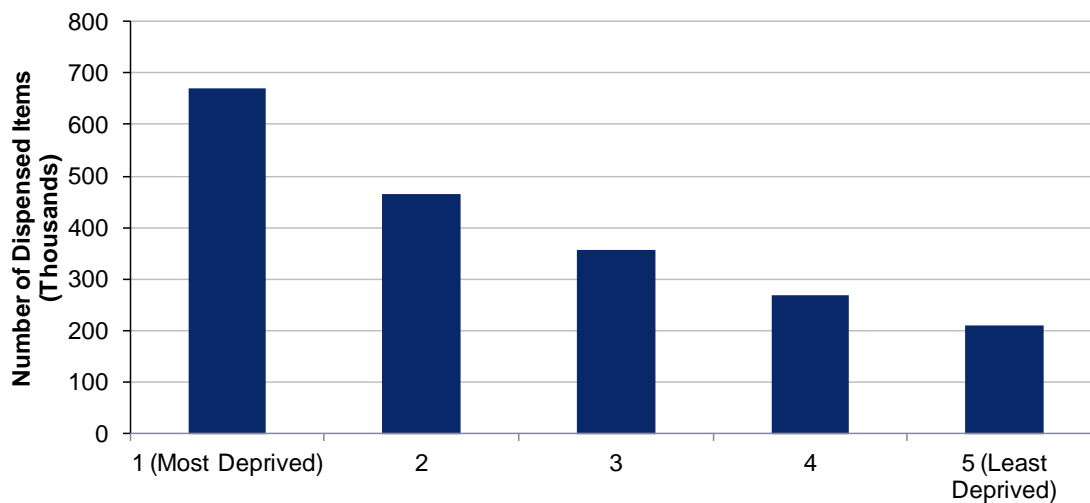
Hypnotics and anxiolytics are, in general, licensed for patients aged 15 years and over, however items can be prescribed ‘off label’ based on specialist recommendation. Figure 3 shows that the number of patients dispensed these drugs increases from age group 15-19 years to a peak for patients aged 45-49 years (37,564 patients) and then steadily decreases as patients get older (Figure 3). This pattern by age group is also seen for previous years.

**Figure 3: Patients by Age Group – Hypnotics and Anxiolytics – 2013/14**



A breakdown by Scottish Index of Multiple Deprivation (SIMD) is included for the first time for 2013/14 data. SIMD is a measure of patient deprivation, and in this publication is reported using quintiles; where SIMD 1 is the most deprived and SIMD 5 is the least deprived group. For Hypnotics and Anxiolytics there is a clear gradient, showing increasing patient counts and number of dispensed items with increasing deprivation (Figure 4).

**Figure 4: Number of Dispensed Items by Patient SIMD – Hypnotics and Anxiolytics – 2013/14**

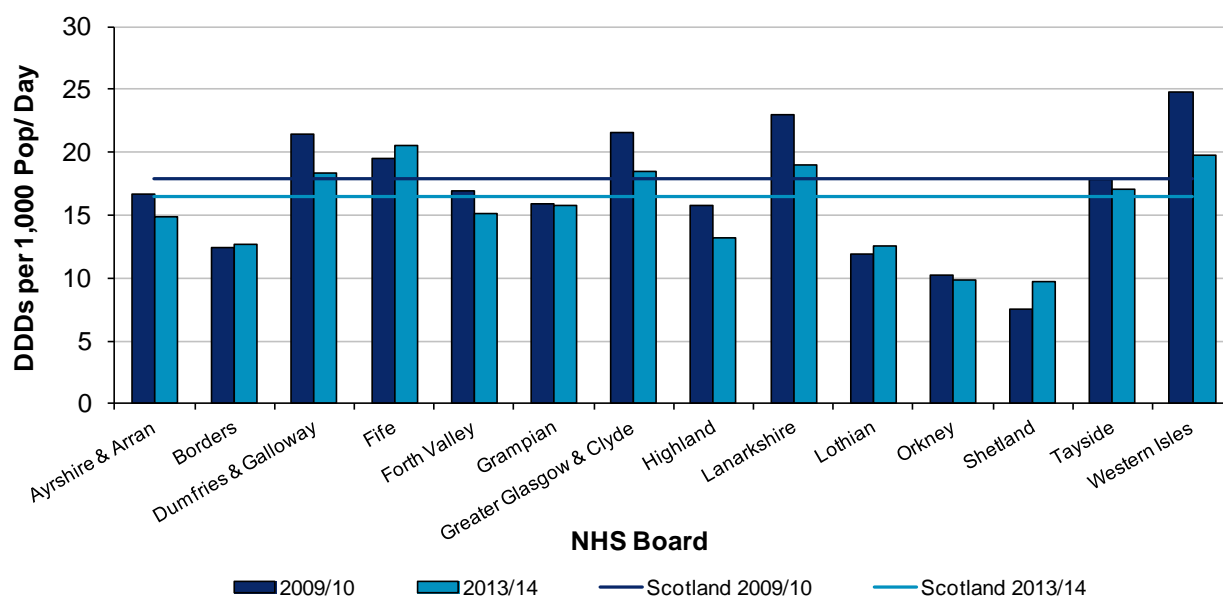


## NHS Board

Information on prescribing for hypnotics and anxiolytic drugs at NHS Board level has also been analysed. Figures 5 and 6 show prescribing of drugs by NHS Board in terms of the number of DDDs per 1,000 population per day for drugs used in the treatment of insomnia and anxiety, respectively.

Ten of the fourteen NHS Boards have shown a reduction in the prescribing of Hypnotics when comparing the number of DDDs per 1,000 population per day for the periods 2009/10 and 2013/14. The largest reduction was recorded by NHS Western Isles (down from 24.9 DDDs per 1,000 population per day in 2009/10 to 19.7 DDDs in 2013/14). NHS Shetland has been, and remains, the lowest 'user' of Hypnotics, dispensing 9.7 DDDs per 1,000 population per day in 2013/14, although this is an increase from 7.5 DDDs in 2009/10 (Figure 5).

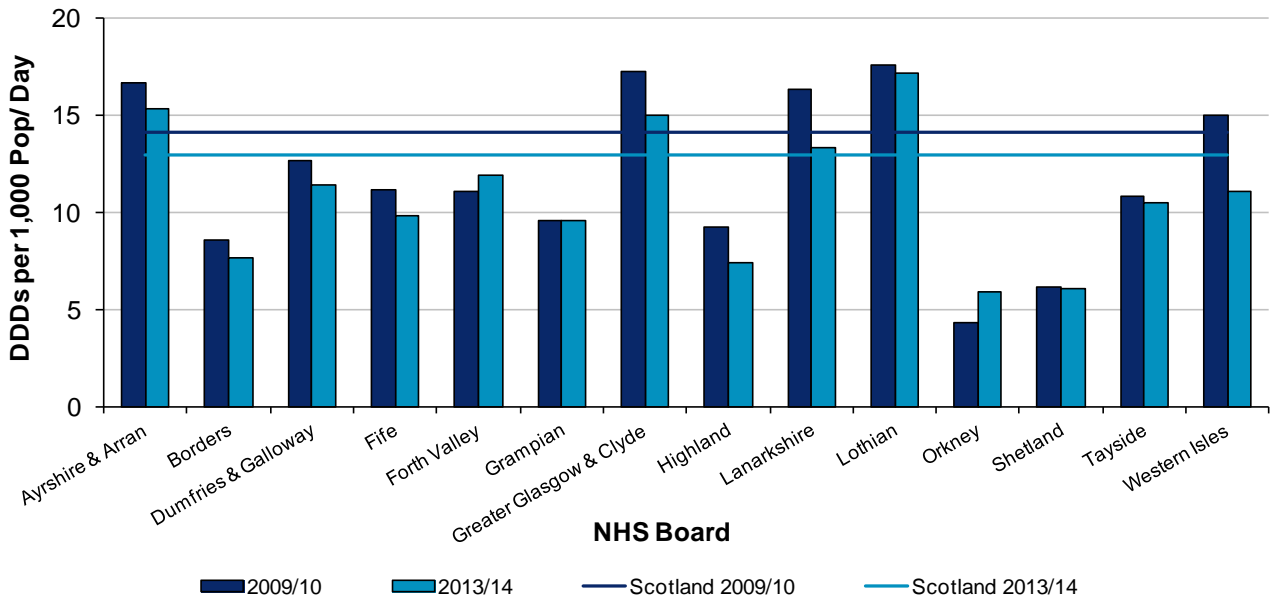
**Figure 5: Hypnotics – Number of Defined Daily Doses per 1,000 Population (aged 15+) per Day– 2009/10 and 2013/14**



The majority of NHS Boards have shown a decrease in the prescribing of Anxiolytics in the last five years. The largest fall again occurred in NHS Western Isles, where the number of DDDs dispensed per 1,000 population per day fell from 15.0 daily doses to 11.1 daily doses between 2009/10 and 2013/14. In contrast NHS Orkney's usage increased from 4.4 to 5.9 DDDs per 1,000 population per day over the same period (Figure 6).



**Figure 6: Anxiolytics – Number of Defined Daily Doses per 1,000 Population (aged 15+) per Day – 2009/10 and 2013/14**



## Antipsychotics and related drugs

### NHS Scotland

The total number of prescription items dispensed for psychoses and related disorders increased between 2012/13 and 2013/14 (from 836,756 to 864,241 items; an increase of 3.3%). This follows a gradual increase over the last ten years; the total number of dispensed items has increased by 38.7% between 2004/05 and 2013/14 (from 622,979 items in 2004/05) (Figure 7).

**Figure 7: Number of dispensed items (thousands) – Psychoses and related disorders – 2004/05 to 2013/14**

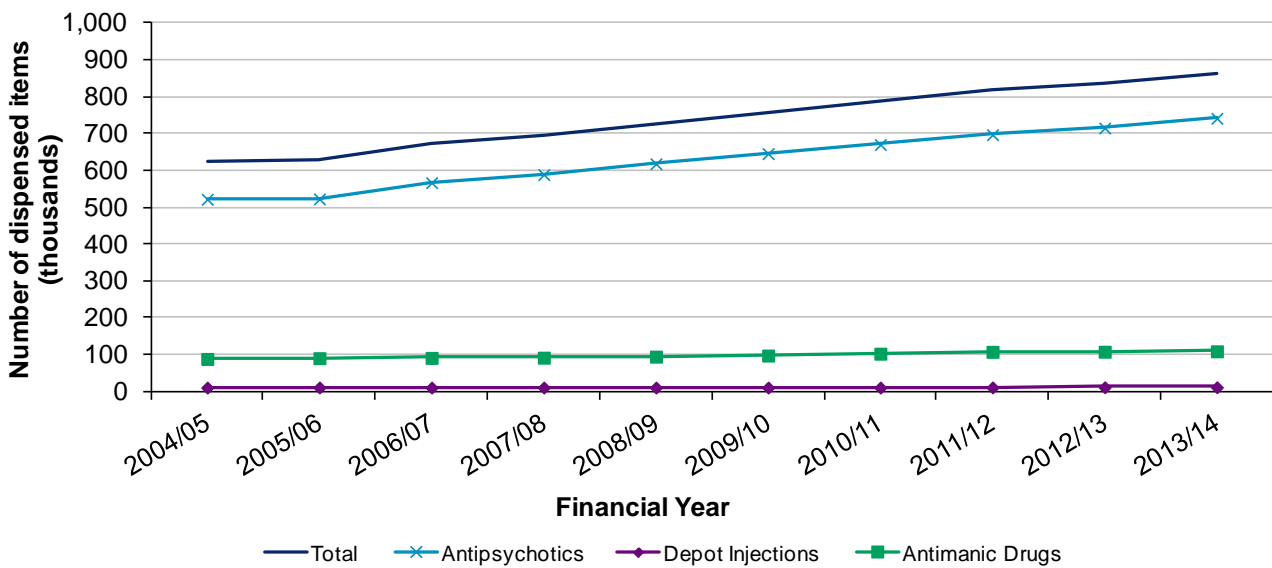
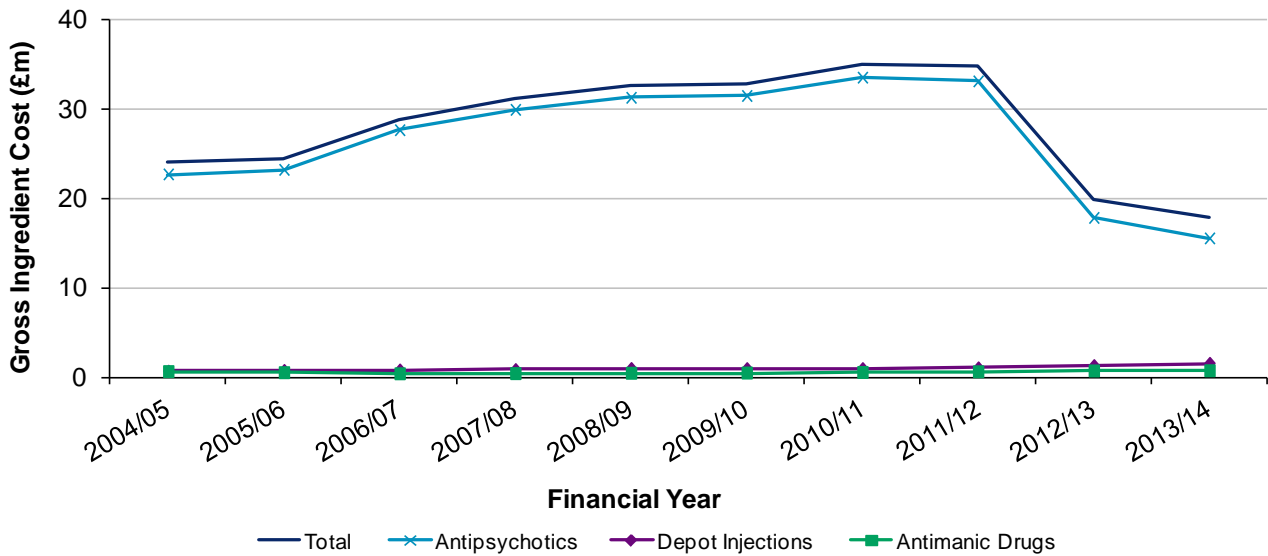


Figure 8 shows that the Gross Ingredient Cost of drugs for Psychoses and related disorders (BNF 4.2) has decreased by 10.2% from £19.8 million in 2012/13 to £17.8million in 2013/14. This decrease is due to the cost of antipsychotic drugs (BNF 4.2.1) reducing from £17.8 million in 2012/13 to £15.5 million in 2013/14 (Figure 8). This large decrease is contrary to the trend for the number of items dispensed, which is rising (Figure 7), and is due to the ongoing savings from the drugs Olanzapine and Quetiapine coming out of patent. Olanzapine came out of patent in September 2011 and generic prices applied from January 2012, while Quetiapine came out of patent in March 2012 and generic prices applied from July 2012. The Gross Ingredient cost of Olanzapine fell from £10.5 million in 2011/12 to £1.0 million in 2013/14 while Quetiapine fell from £14.7 million in 2011/12 to £5.6 million in 2013/14.

The gross ingredient cost for depot injections (BNF 4.2.2) increased by 19.2% from £1.3 million in 2012/13 to £1.6 million in 2013/14, while the antimanic drugs (BNF 4.2.3) increased by 3.1% from £697,867 to £719,148 during the same time period (Figure 8).

**Figure 8: Gross Ingredient Cost (£) – Psychoses and related disorders – 2004/05 to 2013/14**



The total number of Defined Daily Doses per 1,000 population of drugs dispensed for psychoses and related disorders has increased in Scotland over the past ten years: from 7.9 in 2004/05 to 10.5 in 2013/14.

Patient level data are available since April 2009 only. The CHI capture rate for drugs used in the treatment of psychoses and related disorders in 2013/14 was 96.5%. It has been increasing year on year since 2009/10 (Table 4).

**Table 4: CHI Capture rate – Psychoses and Related Disorders**

Topic	2009/10	2010/11	2011/12	2012/13	2013/14
Psychoses & related disorders	91.1%	93.8%	94.3%	95.1%	96.5%

In Scotland a total of 83,687 patients received treatment for psychoses and related disorders in 2013/14. This is an increase of 4% compared to 2012/13 (80,479 patients) and an increase of 14.9% since 2009/10 (72,811 patients) (Table 5)

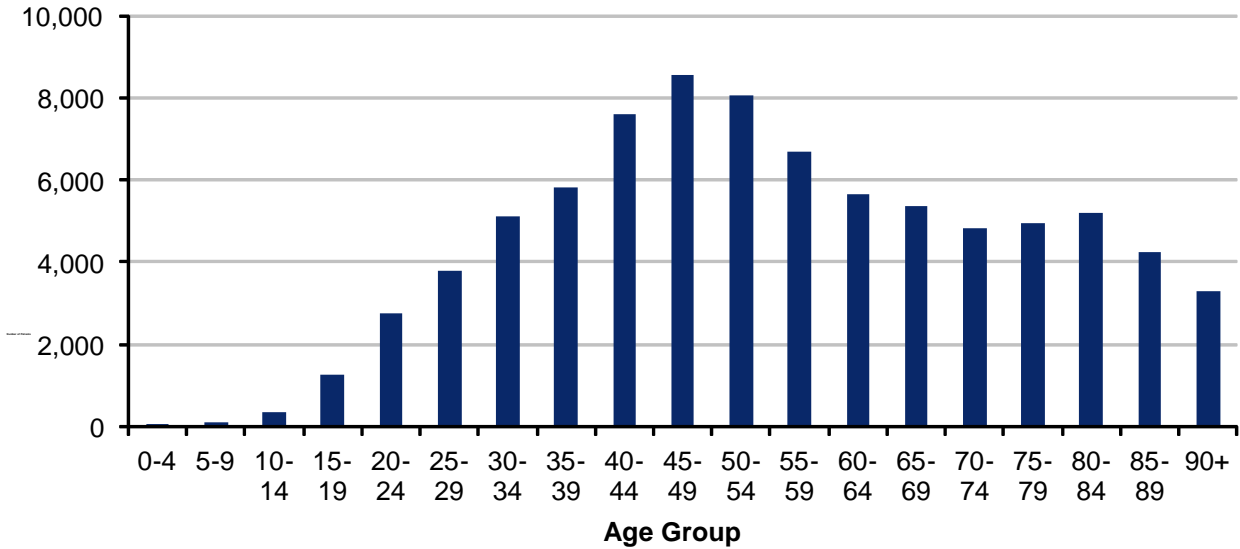
**Table 5: Patients by Gender – Psychoses and Related Disorders – 2009/10 to 2013/14**

Financial Year	Total	Male	Female
2009/10	72,811	32,937	39,874
2010/11	75,770	34,513	41,257
2011/12	78,471	35,879	42,592
2012/13	80,479	36,920	43,559
2013/14	83,687	38,614	45,073

In 2013/14, 53.9% of patients who received treatment with drugs for psychoses and related disorders were female while 46.1% were male. This is consistent with previous years.

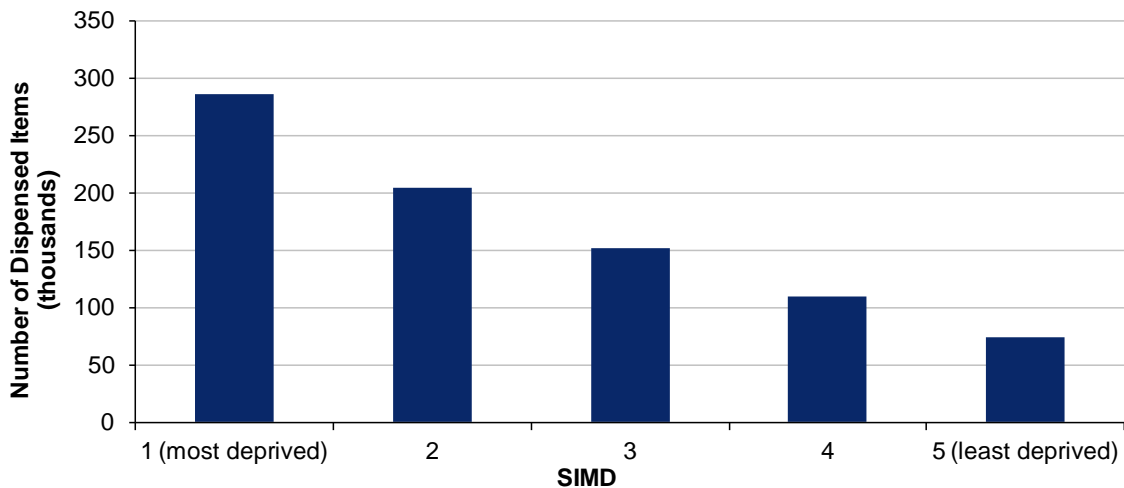
The number of patients dispensed drugs for psychoses and related disorders increases from age group 15-19 years to a peak for patients aged 45-49 years (8,553 patients) and then generally decreases as patients get older (Figure 9). This pattern by age group is also seen for previous years.

**Figure 9: Patients by Age Group – Psychoses & Related Disorders – 2013/14**



A breakdown by Scottish Index of Multiple Deprivation (SIMD) is included for the first time for 2013/14 data. For Antipsychotics and related drugs there is a clear gradient, showing increasing patient counts and number of dispensed items with increasing deprivation (Figure 10).

**Figure 10: Number of Dispensed Items by Patient SIMD – Psychoses & Related Disorders– 2013/14**

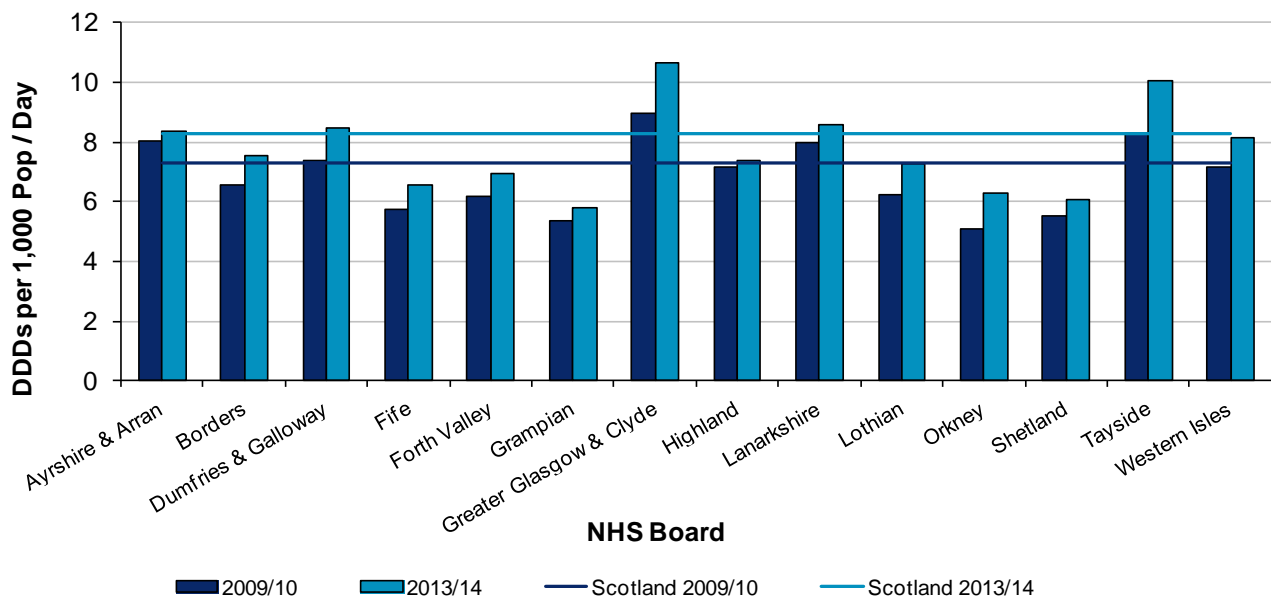


## NHS Board

As the majority of the drugs used in the treatment of psychoses and related disorders are antipsychotic drugs (BNF section 4.2.1), only these drugs are presented by NHS Boards for 2009/10 and 2013/14 in Figure 11.

All NHS Boards show increased prescribing of Antipsychotic drugs since 2009/10. The use of Antipsychotic drugs (BNF 4.2.1) has increased from 7.3 to 8.3 DDDs per 1,000 population per day between 2009/10 and 2013/14. Five of the fourteen NHS Boards dispensed above the 2013/14 national averages for Antipsychotic drugs (BNF 4.2.1); with NHS Greater Glasgow & Clyde being the highest at 10.6 DDDs per 1,000 population per day (for patients aged 15+ years) (Figure 11).

**Figure 11: Antipsychotic Drugs (BNF 4.2.1) – Number of Defined Daily Doses per 1,000 Population (age 15+) per Day – 2009/10 and 2013/14**

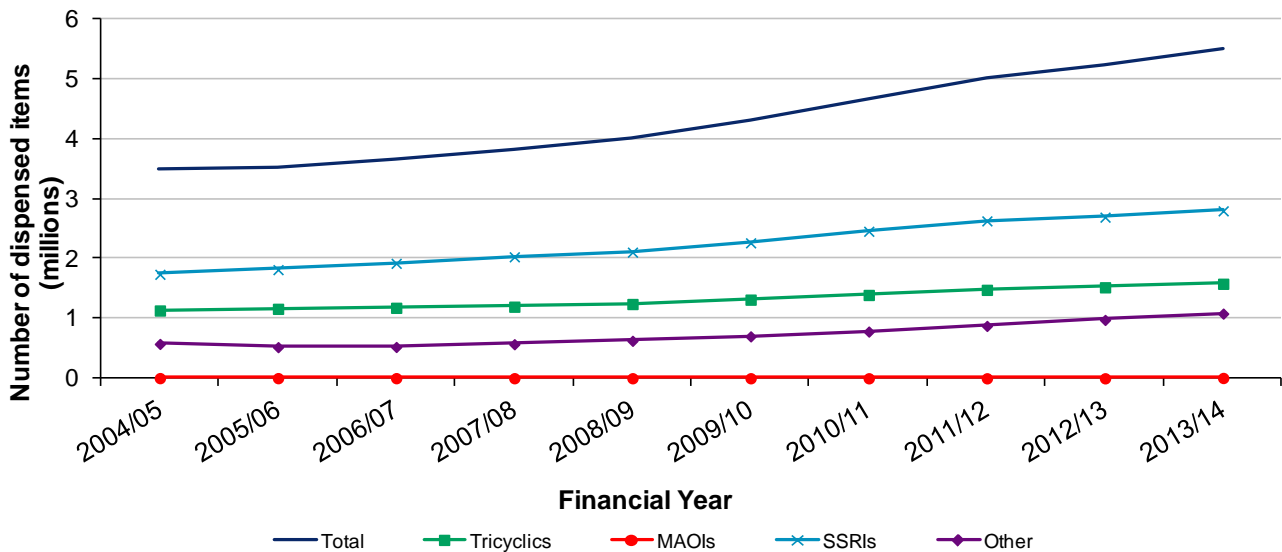


## Antidepressants

### NHS Scotland

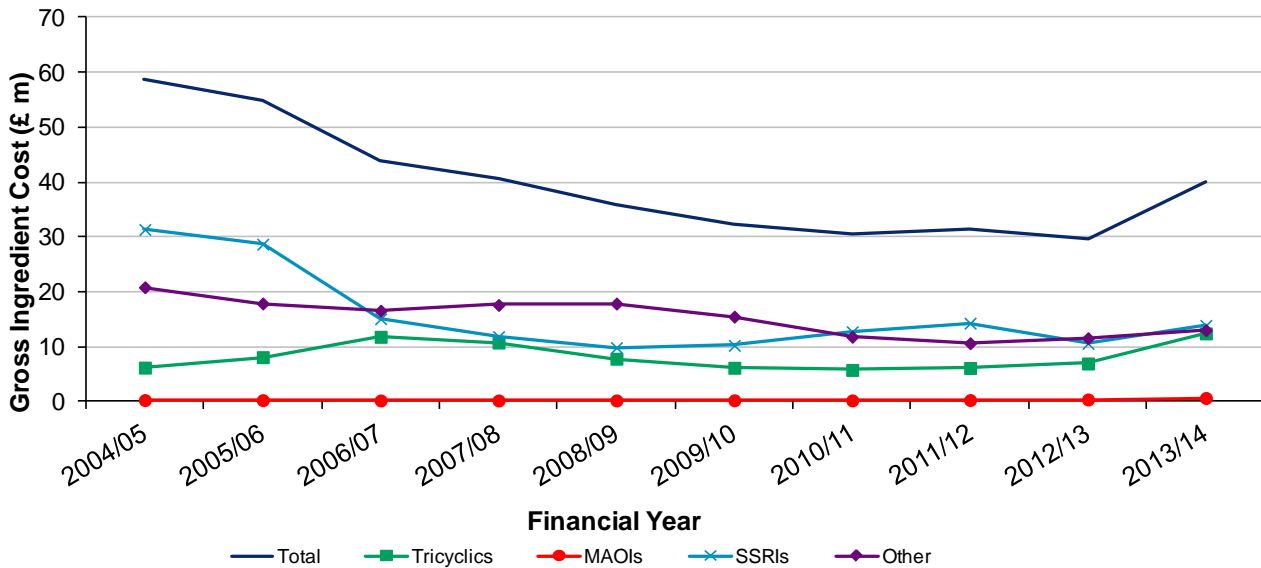
The total number of antidepressant prescription items dispensed increased by 5.3% between 2012/13 and 2013/14 (from 5.2 to 5.5 million items). This has been increasing fairly consistently over the last ten years, rising by 57.9% overall (from 3.5 million items in 2004/05) (Figure 12).

**Figure 12: Number of dispensed items (thousands) – Antidepressants – 2004/05 to 2013/14**



While the total number of prescription items dispensed has increased over the last ten years, the gross ingredient cost for antidepressants has fallen. Overall it fell by 31.8% between 2004/05 and 2013/14 (from £58.7 million to £40.0 million). Over the last year the gross ingredient cost for antidepressants has actually increased by 35.5% from £29.6 million in 2012/13; some of the drugs such as Sertraline and Citalopram have been occasionally in short supply which drives the drug prices up (Figure 13).

**Figure 13: Gross Ingredient Cost (£) – Antidepressants – 2004/05 to 2013/14**



The total number of DDDs per 1,000 population of antidepressants dispensed has increased in Scotland in the last ten years: from 83.5 in 2004/05 to 130.0 in 2013/14.

Patient level data are available for analysis from April 2009 onwards. Data on the total number of patients dispensed an antidepressant should be interpreted with great caution: it does not equate to people being treated for depression because many drugs classified as antidepressants can also be used for conditions other than depression; including neuropathic pain, post-traumatic stress disorder and anxiety disorders.

The CHI capture rate for Antidepressants in 2013/14 was 98.2%. This has been increasing year on year since 2009/10 (Table 6).

**Table 6: CHI Capture rate – Antidepressants**

Topic	2009/10	2010/11	2011/12	2012/13	2013/14
Antidepressants	93.4%	95.4%	95.9%	97.0%	98.2%

In Scotland a total of 778,180 patients were dispensed at least one antidepressant during 2013/14. This is an increase of 4.2% compared to 2012/13 (747,158 patients), and an increase of 22.8% since 2009/10 (633,791 patients) (Table 7).

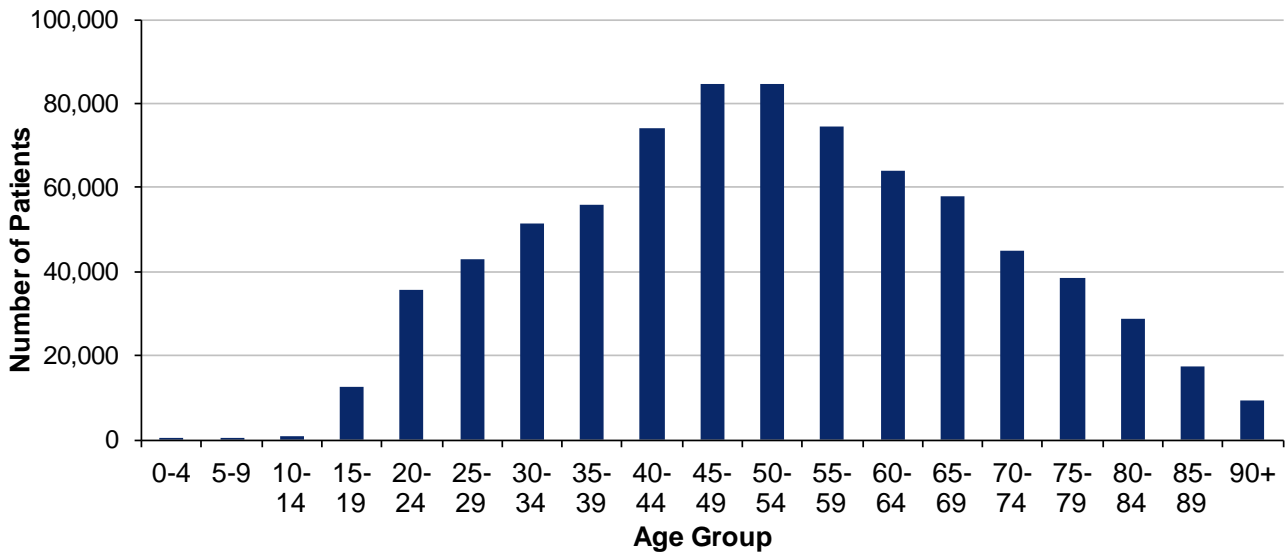
**Table 7: Patients by Gender – Antidepressants – 2009/10 to 2011/12**

Financial Year	Total	Male	Female
2009/10	633,791	204,119	429,672
2010/11	675,948	219,071	456,877
2011/12	718,330	234,899	483,431
2012/13	747,158	246,925	500,233
2013/14	778,180	259,747	518,433

In 2013/14, 66.6% of patients who received antidepressant treatment were female while 33.4% were male, which is consistent with previous years.

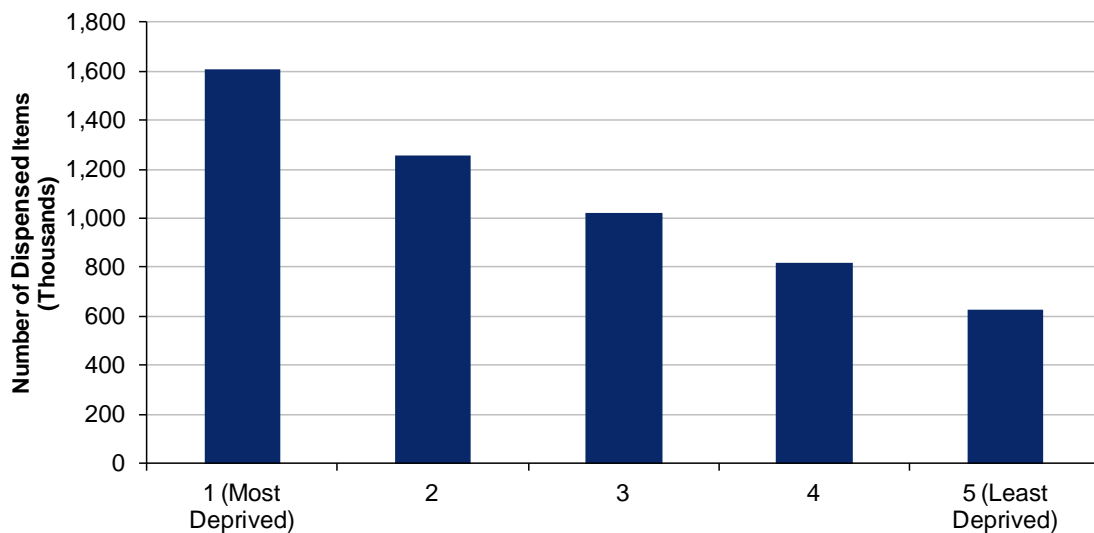
The number of patients dispensed antidepressant drugs increases from age group 15-19 years to a peak for patients aged 45-49 years (84,877 patients) and then steadily decreases as patients get older (Figure 14). This pattern by age group is also seen for previous years.

**Figure 14: Patients by Age Group – Antidepressants – 2013/14**



A breakdown by Scottish Index of Multiple Deprivation (SIMD) is included for the first time for 2013/14 data. For Antidepressants there is a clear gradient, showing increasing patient counts and number of dispensed items with increasing deprivation (Figure 15).

**Figure 15: Number of Dispensed Items by Patient SIMD – Antidepressants– 2013/14**





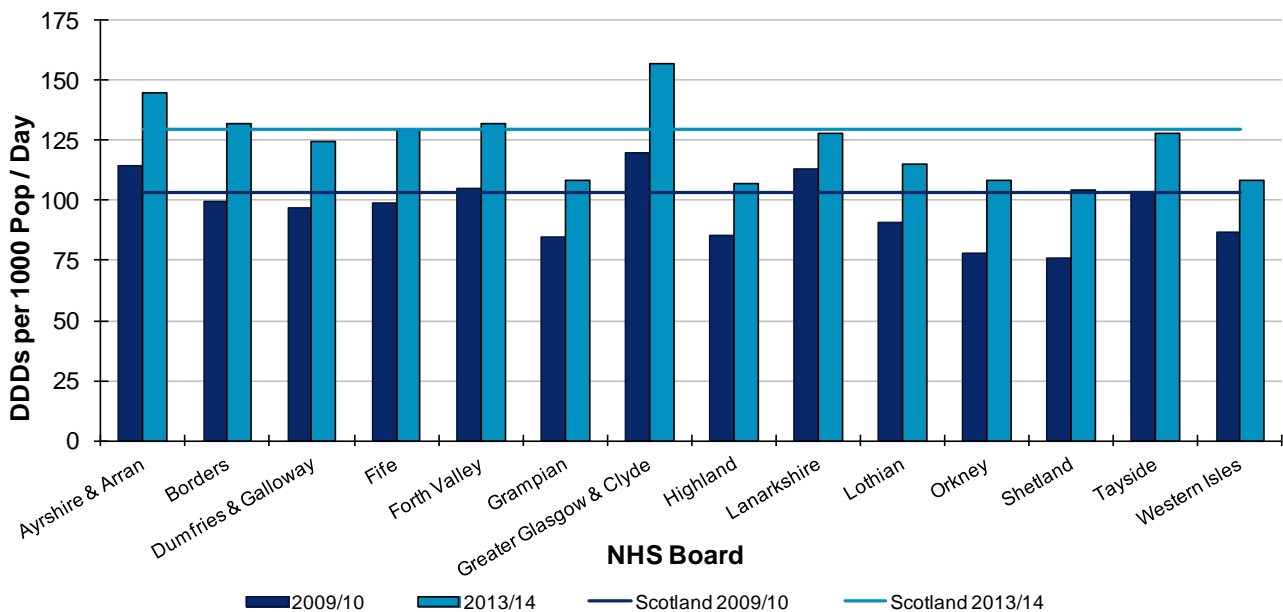
## NHS Boards

Information on the NHS Board of prescribing for antidepressants has also been analysed. Figure 16 shows prescribing of drugs by NHS Board in terms of the number of DDDs per 1,000 population per day.

In Scotland an average of 130.0 DDDs were dispensed per 1,000 population per day during 2013/14. Four NHS Boards prescribed higher than the national average for antidepressants in 2013/14, of which NHS Greater Glasgow & Clyde prescribed the highest with 157.1 DDDs per 1,000 population per day. NHS Ayrshire & Arran had the second highest antidepressant prescribing rate (144.6) whilst NHS Shetland once again had the lowest rate, with 104.4 DDDs per 1,000 population per day (Figure 16).

All NHS Boards showed an increase in number of defined daily doses per 1,000 populations between 2009/10 and 2013/14.

**Figure 16: Number of Defined Daily Doses per 1,000 Population (aged 15+) per Day – Antidepressants – 2009/10 and 2013/14**



## Individual Antidepressant Drugs

All of the top 5 antidepressant drugs show an increase in dispensed items when comparing 2004/05 to 2013/14. Mirtazapine shows the largest increase, up 256.8% (434,318 items) from 2004/05 (Table 8). The top 5 drugs in 2013/14 are the same as the top 5 drugs in 2012/13.

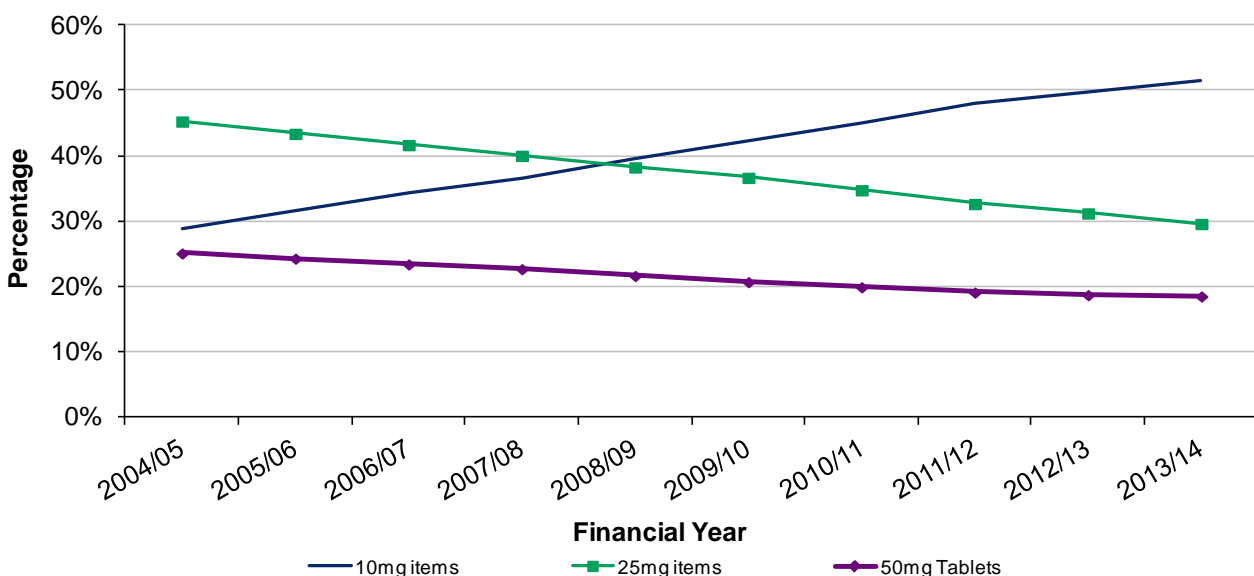
**Table 8: Top Five Antidepressants – Number of Dispensed Items – 2004/05 to 2013/14**

Approved Name	Type	Dispensed Items 2004/05	Dispensed Items 2013/14
Amitriptyline	Tricyclic	611,465	1,121,066
Citalopram	SSRI	592,589	1,202,325
Fluoxetine	SSRI	555,940	789,299
Mirtazipine	Other	169,151	603,469
Sertraline	Other	226,461	584,837

The BNF states that use of Amitriptyline is not recommended to treat depression, particularly in lower dosage strengths (less than 30mg). Lower dosage strengths of Amitriptyline are however used to treat neuropathic pain and for migraine prophylaxis (unlicensed indications). In both conditions the typical starting dose is 10mg which can be increased to 75mg daily if needed. It may also be used to help treat bed-wetting in children, also an unlicensed indication.

Figure 17 shows that the proportion of prescriptions dispensed for 10mg Amitriptyline tablets has increased from 28.8% of dispensed items in 2004/05 to 51.6% by 2013/14. At the same time, prescribing of the 25mg Amitriptyline tablets declined from 45.3% to 29.6% of dispensed items. Prescribing of 50mg tablets has also declined from 25.1% in 2004/05 to 18.5% by 2013/14. High dose Amitriptyline is recommended to treat depression. From the increase in low dose Amitriptyline, but decrease of high dose, it can be inferred that a change in practice has occurred with Amitriptyline being used to treat indications other than depression.

**Figure 17: Amitriptyline – Comparison of prescribed strength 10mg, 25mg and 50mg tablets – 2004/05 to 2013/14**



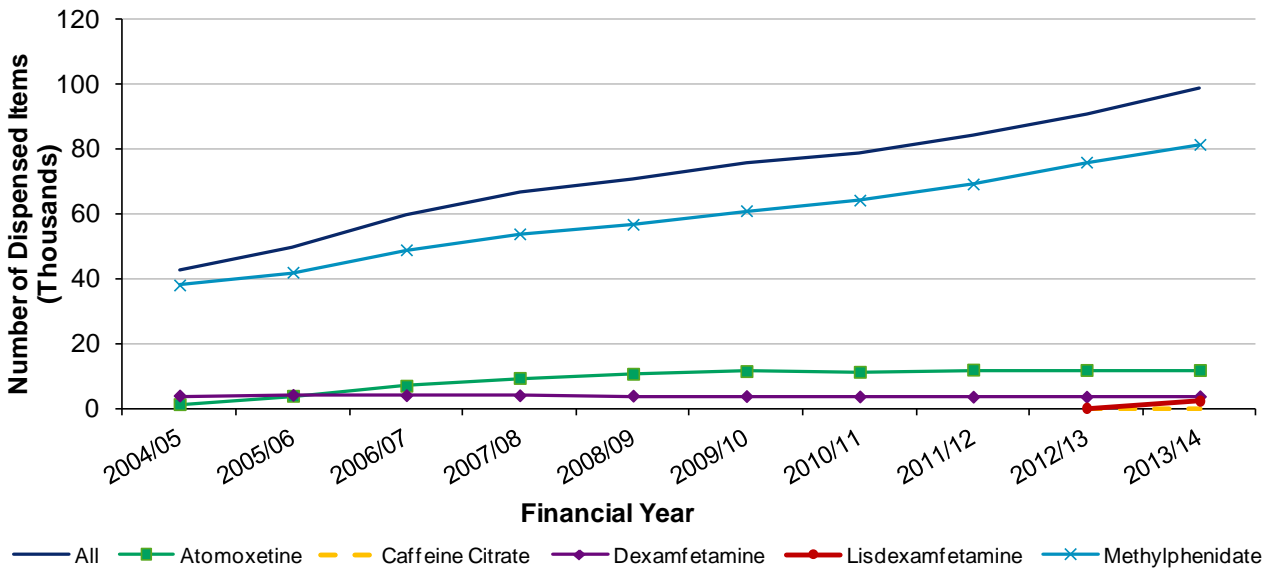
In Scotland a total of 778,180 patients received treatment with at least one antidepressant medicine (BNF 4.3) during 2013/14; note however that 28.9% of these patients were dispensed Amitriptyline, around half of which was at low dose and therefore likely to be prescribed for conditions other than depression.

## Drugs used for Attention Deficit Hyperactivity Disorder (ADHD)

### NHS Scotland

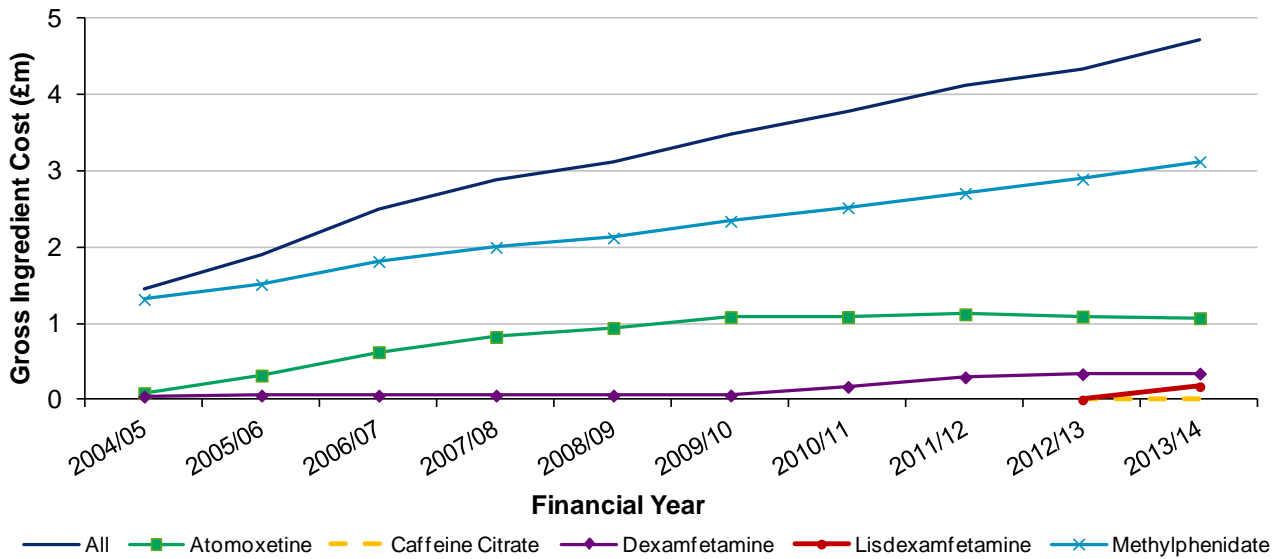
The total number of ADHD prescription items dispensed rose by 8.6% between 2012/13 (90,890 items) and 2013/14 (98,711 items). The number of items dispensed has been increasing consistently over the last ten years, rising by 130% overall (from 42,832 items in 2004/05). Prescribing of Methylphenidate (Methylphenidate Hydrochloride) continues to dominate BNF section 4.4, accounting for 82.3% of ADHD drug dispensed items in 2013/14 (Figure 18).

**Figure 18: Total number of items dispensed (thousands) – ADHD Drugs – 2004/05 to 2013/14**



Over the last ten years the gross ingredient cost for ADHD drugs has shown a similar, though steeper, trend to the number of items dispensed, rising by 225.2% (from £1.5 million in 2004/05 to £4.7 million in 2013/14). Over the last year the GIC for ADHD drugs rose by 8.9% from £4.3 million in 2012/13 (Figure 19).

**Figure 19: Gross Ingredient Cost (£) – ADHD Drugs – 2004/05 to 2013/14**



The total number of Defined Daily Doses per 1,000 population per day of drugs for ADHD has increased in Scotland over the past ten years: from 3.7 in 2004/05 to 7.4 in 2013/14.

The CHI capture rate for drugs used for Attention Deficit Hyperactivity Disorder in 2013/14 was 93.3%. The rate has been generally increasing from 2009/10 (Table 9).

**Table 9: CHI Capture rate – Attention Deficit Hyperactivity Disorder**

Topic	2009/10	2010/11	2011/12	2012/13	2013/14
ADHD	87.6%	91.0%	91.8%	91.4%	93.3%

In Scotland a total of 8,924 patients received treatment for ADHD in 2013/14. This is an increase of 12.7% compared to 2012/13 (7,918 patients) and an increase of 33% since 2009/10 (6,711 patients) (Table 10).

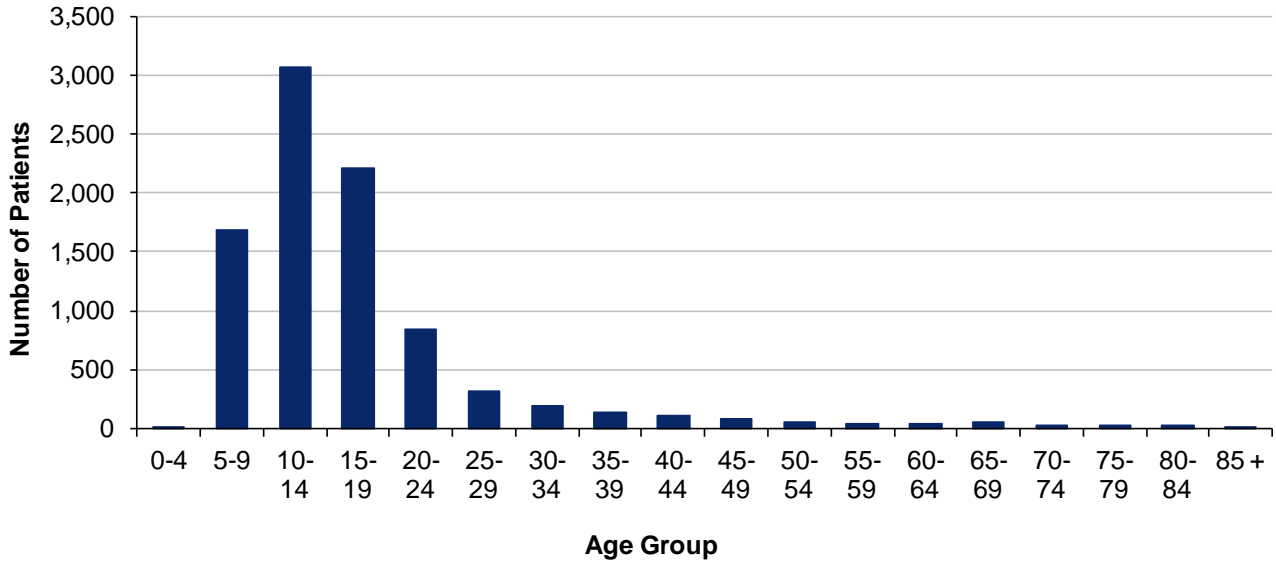
**Table 10: Patients by Gender – ADHD Drugs – 2009/10 to 2013/14**

Financial Year	Total	Male	Female
2009/10	6,711	5,500	1,211
2010/11	7,138	5,860	1,278
2011/12	7,511	6,103	1,408
2012/13	7,918	6,413	1,505
2013/14	8,924	7,165	1,759

In 2013/14, 80.3% of patients who received treatment for ADHD were male while 19.7% were female. This is consistent with previous years (Table 10), and with literature.

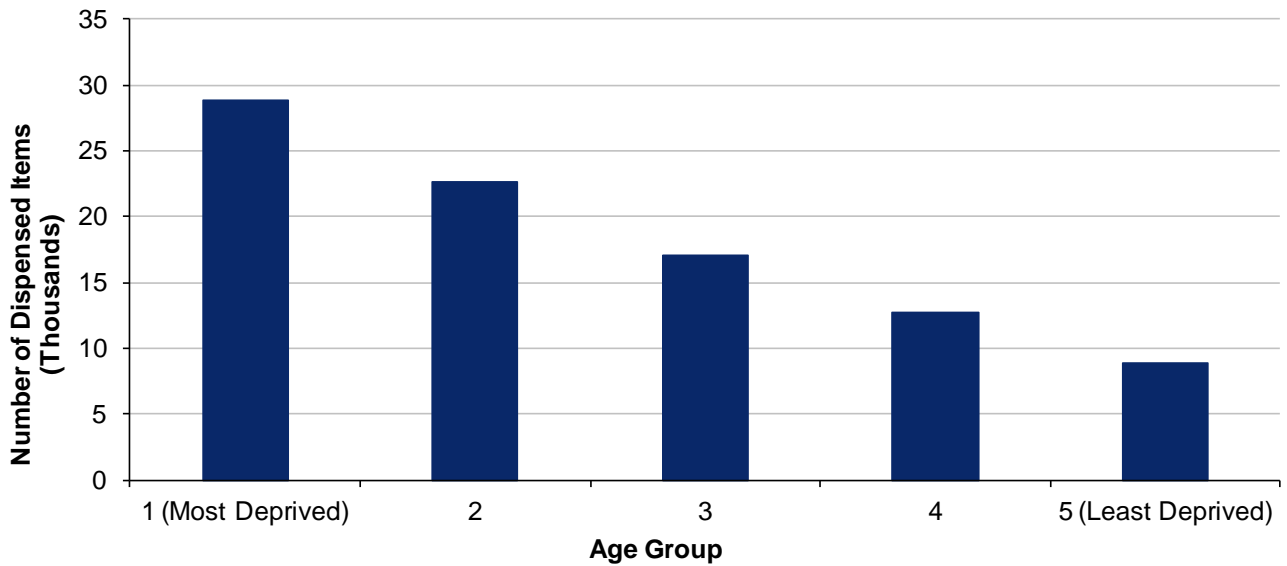
Figure 20 shows that the age grouping with the greatest number of patients who received drug treatment for ADHD was '10-14', with 3,075 patients in that age group in 2013/14. ADHD Drugs are in general licensed for the ages 5–18; however one of the drugs, Dexamphetamine Sulphate is also licensed for use to treat narcolepsy in the elderly. Initiating treatment of ADHD in adulthood is unlicensed, however for those who were initially prescribed ADHD drugs when younger treatment may continue into adulthood (Figure 20).

**Figure 20: Patients by Age Group – ADHD Drugs – 2013/14**



A breakdown by Scottish Index of Multiple Deprivation (SIMD) is included for the first time for 2013/14 data. For ADHD drugs there is also a clear gradient, showing increasing patient counts and number of dispensed items with increasing deprivation (Figure 21).

**Figure 21: Number of Dispensed Items by Patient SIMD – ADHD Drugs– 2013/14**

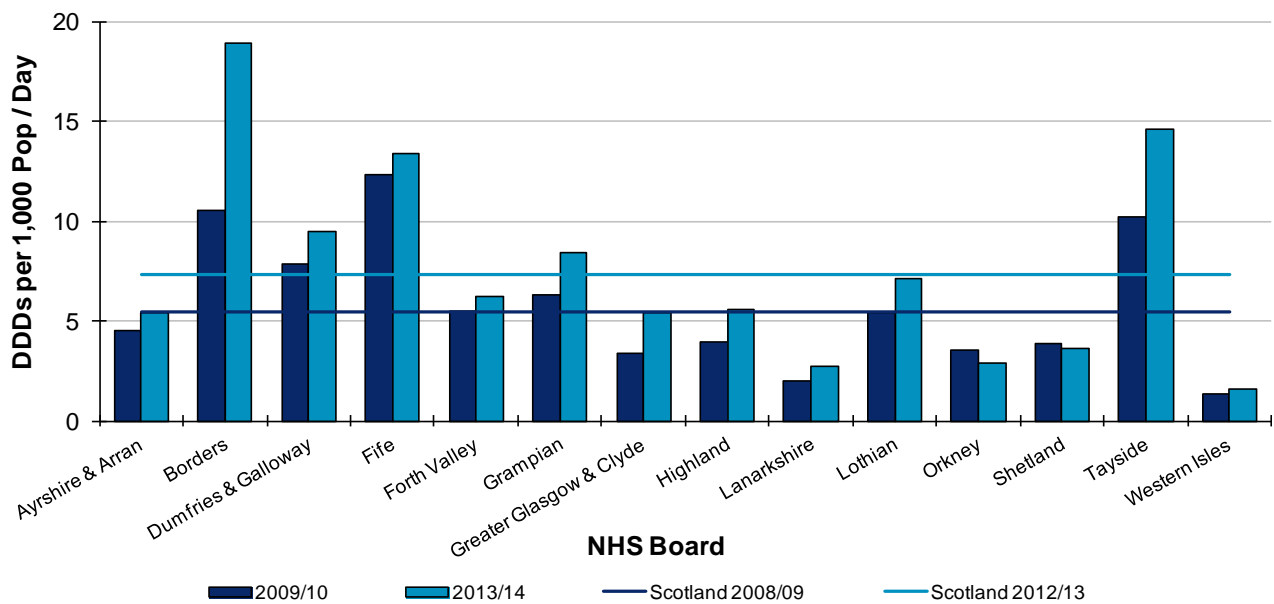


## NHS Boards

Among the NHS Boards, the highest recorded rate of DDDs per 1,000 population per day for 2013/14 was in NHS Borders at 18.9 and Western Isles was the lowest at 1.6 DDDs per 1,000 population per day. NHS Lanarkshire, one of the largest NHS Boards in Scotland, has the second lowest dispensing rate at 2.8 DDDs per 1,000 population per day (Figure 22).

Twelve of the fourteen NHS Boards showed an increase in dispensing of ADHD drugs between 2009/10 and 2013/14. The largest increase was recorded by NHS Borders who dispensed 10.5 DDDs per 1,000 population per day in 2009/10, increasing to 18.9 in 2013/14.

**Figure 22: Number of Defined Daily Doses per 1,000 Population (aged 0-19) per Day – ADHD Drugs – 2009/10 and 2013/14**

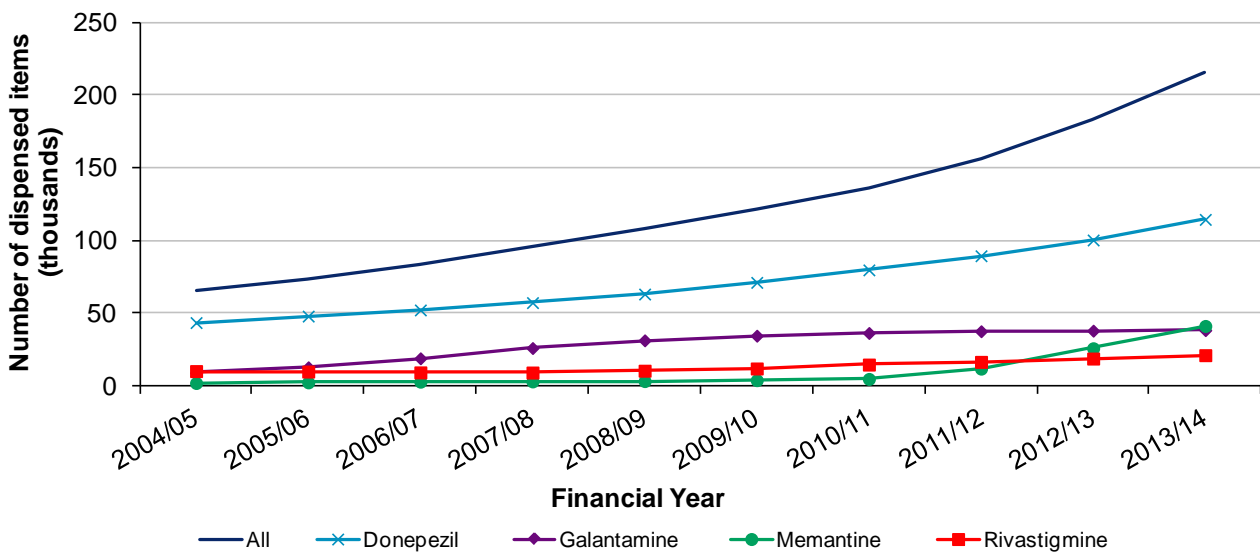


## Drugs for Dementia

### NHS Scotland

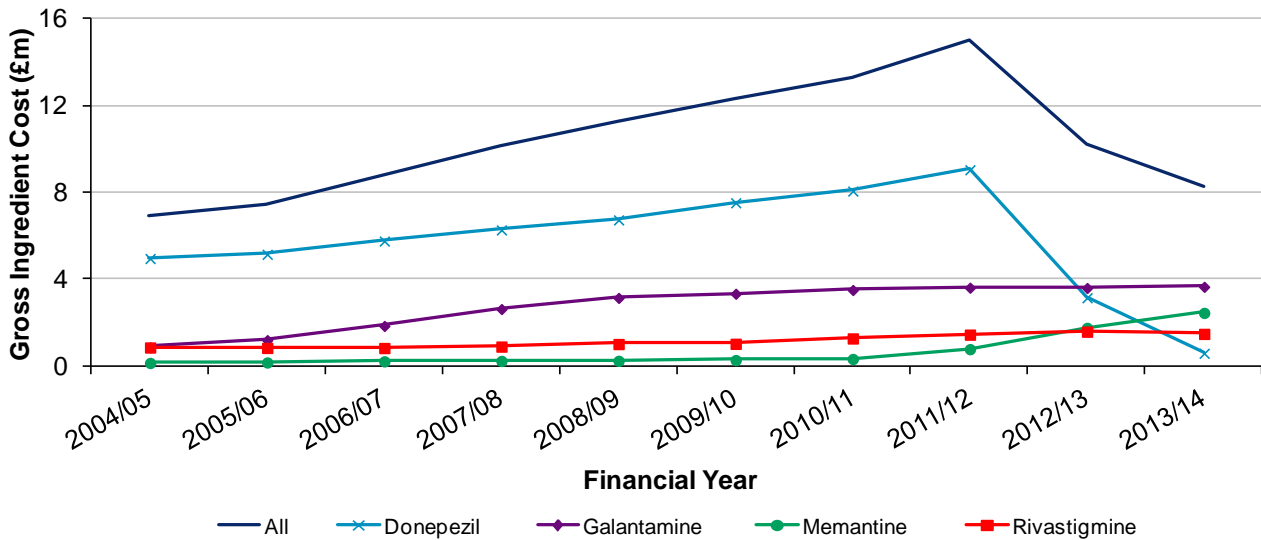
The total number of prescription items dispensed for dementia increased by 17.5% between 2012/13 (183,176 items) and 2013/14 (215,313 items). This has been increasing steadily over the last ten years, rising by 230.9% overall (from 65,070 items in 2004/05) (Figure 23). The number of prescription items for Memantine (Memantine Hydrochloride) has increased sharply over the last three years (by 589.6% between 2010/11 and 2013/14). This is likely to be due to the change in guidance over its use mentioned in the Introduction.

**Figure 23: Number of dispensed items (thousands) – Dementia Drugs – 2004/05 to 2013/14**



The total Gross Ingredient Cost for dementia drugs had grown steadily from £6.9 million in 2004/05 to £15.0 million by 2011/12 (an increase of 116.1%). However, the total cost of dementia drugs is now decreasing; the gross ingredient cost fell by 18.8% from £10.2 million in 2012/13 to £8.3 million in 2013/14 (Figure 24); down 44.7% from 2011/12. The main reason for this is likely to be the availability of generic versions of Donepezil since the expiration of its UK patent in February 2012, causing a fall in costs for Donepezil by over £8 million (93.1%) between 2011/12 and 2013/14, despite an increase in the number of items dispensed (27.9% increase in items).

**Figure 24: Gross Ingredient Cost (£) – Dementia Drugs – 2004/05 to 2013/14**



The total number of Defined Daily Doses per 1,000 population of drugs for Dementia has increased in Scotland over the past ten years: from 6.3 in 2004/05 to 17.3 in 2013/14.

Patient level data can be reported for Dementia drugs from April 2009. The CHI capture rate for drugs for Dementia in 2013/14 was 92.1%. This is a big increase on the previous year (Table 11), however is still lower for Dementia than for other sections. This is due to the way Dementia services are set up in some NHS Boards.

**Table 11: CHI Capture rate – Drugs for Dementia**

Topic	2009/10	2010/11	2011/12	2012/13	2013/14
Dementia	84.0%	87.4%	87.0%	88.3%	92.1%

In Scotland a total of 23,063 patients were dispensed at least one drug for dementia during 2013/14. This is an increase of 16.7% compared to 2012/13 (19,763 patients) and an increase of 63.3% since 2009/10 (14,122 patients) (Table 12). This is consistent with the increasing number of dementia drugs being dispensed over the last four years (Figure 19), however the rise in CHI Capture rate should be taken into account when interpreting these figures.

In 2013/14, 64.7% of patients who were dispensed dementia drugs were female while 35.3% were male. This is consistent with previous years.

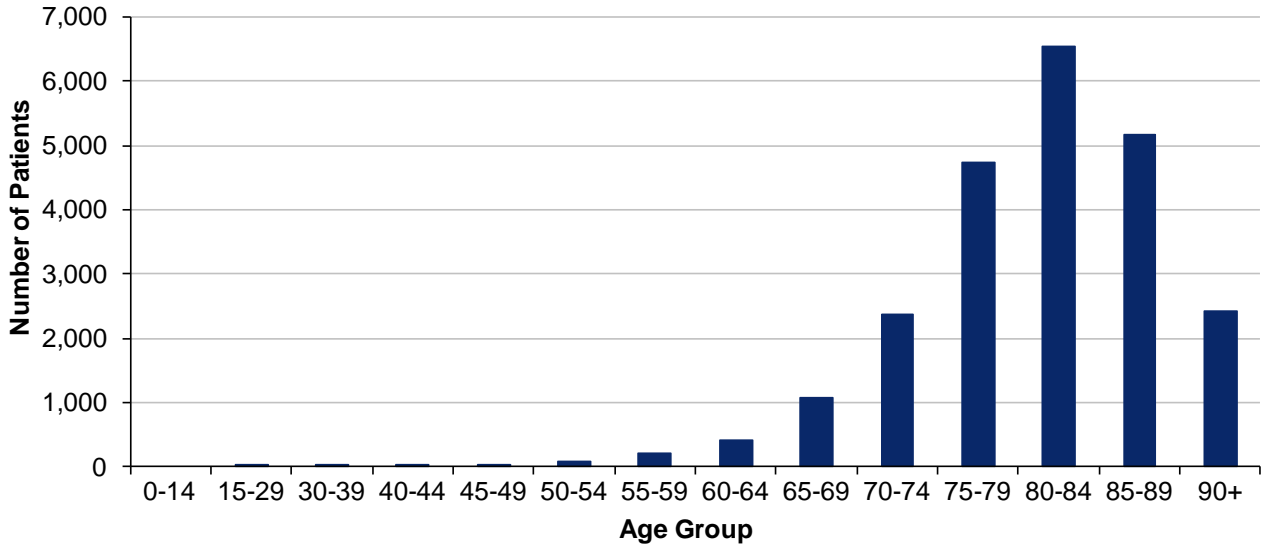
**Table 12: Patients by Gender – Dementia Drugs – 2009/10 to 2013/14**

Financial Year	Total	Male	Female
2009/10	14,122	4,884	9,238
2010/11	15,886	5,486	10,400
2011/12	17,546	6,150	11,396
2012/13	19,763	6,974	12,789
2013/14	23,063	8,144	14,919



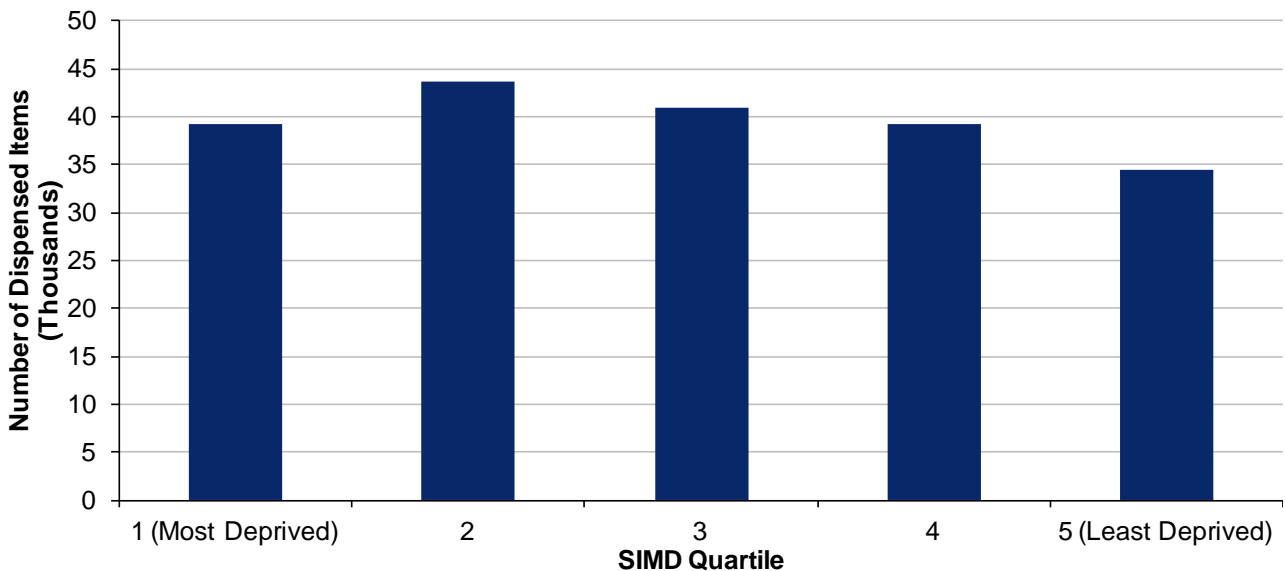
The majority of patients being prescribed dementia drugs are aged 70 and above. This is due to the late onset of the condition in life. The age group with the greatest number of patients to receive a drug for dementia was '80-84', with 6,533 patients in 2013/14 (Figure 25).

**Figure 25: Patients by Age Group – Drugs for Dementia - 2013/14**



A breakdown by Scottish Index of Multiple Deprivation (SIMD) is included for the first time for 2013/14 data. For drugs for dementia there is not such a clear gradient as with the previous sections; SIMD Quartile 1 (the most deprived) shows a lower number of both items (figure 26) and patients, with Quartiles 2 and 3 showing both higher items and patients. Thereafter, both counts tail off as deprivation decreases.

**Figure 26: Number of Dispensed Items by Patient SIMD – Drugs for Dementia – 2013/14**

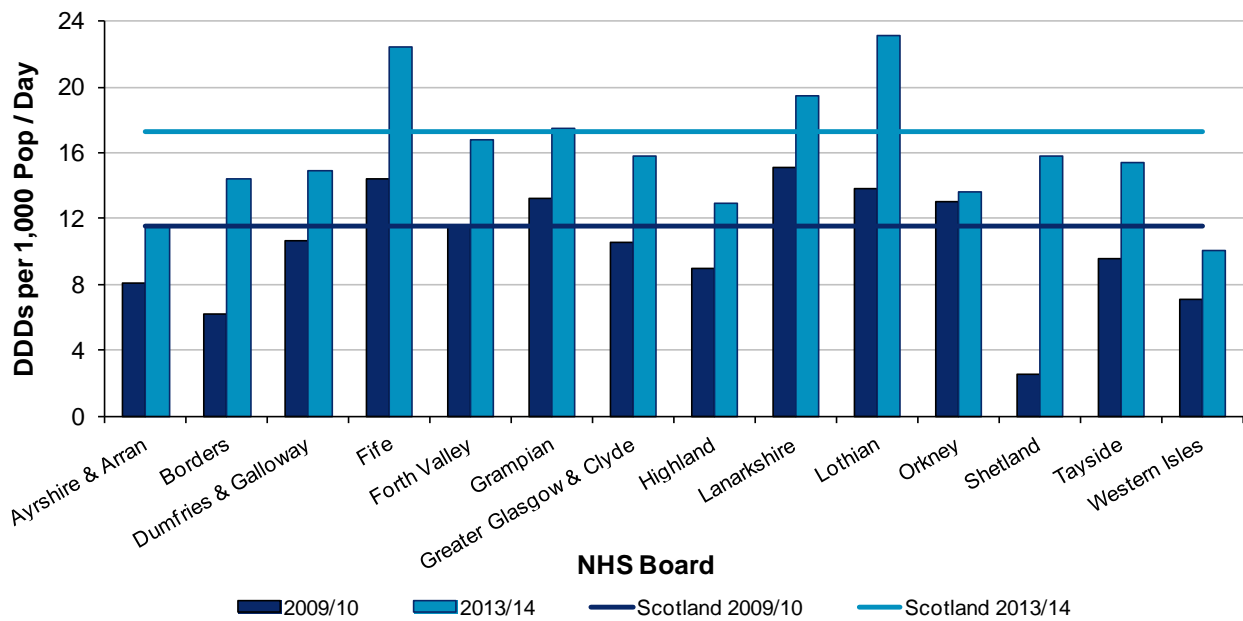


## NHS Boards

In Scotland, an average of 17.3 DDDs were dispensed per 1,000 population per day during 2013/14. Four NHS boards dispensed above the national average for dementia, of which NHS Lothian prescribed the highest with 23.1 DDDs per 1,000 population per day. NHS Fife had the second highest prescribing rate with 22.4 DDDs per 1,000 population per day, while NHS Western Isles had the lowest rate, with 10.1 DDDs per 1,000 population per day (Figure 27).

All NHS Boards show an increase in dispensing of drugs for dementia between 2009/10 and 2013/14.

**Figure 27: Number of Defined Daily Doses per 1,000 Population (aged 60+) per Day – Dementia Drugs, 2009/10 and 2013/14**



## Glossary

ADHD	Attention Deficit Hyperactivity Disorder
Approved Drug Name	As listed in BNF, being the recognised official non-proprietary title (recommended International Non-Proprietary Name - rINN).
British National Formulary (BNF)	A standard classification of drugs into conditions of primary therapeutic use, the aim is to provide prescribers, pharmacists and other healthcare professionals with sound up-to-date information about the use of medicines.
Defined Daily Dose (DDD)	Assumed average maintenance dose per day for a drug when used for its main indication in adults, as defined by World Health Organisation.
Gross Ingredient Cost (GIC)	Cost of drugs and appliances reimbursed before deduction of any dispenser discount (this definition differs from other parts of the UK).
Prescribable Item Name	The drug name written on the prescription - can be by approved name or a brand name.
Prescribed Health Board	The NHS Board with which the prescriber holds a contract to prescribe, i.e. GP, Dentist, Non-medical prescriber.
Prescription item	An item is an individual product prescribed e.g. 100 aspirin tablets of 300mg.
Quantity	Quantity dispensed of an individual item e.g. 100 tablets
SIMD	Scottish Index of Multiple Deprivation - A measure of deprivation for Scotland.

## List of Tables

Table No.	Name	Time period	File & size
1	<a href="#">Hypnotics and Anxiolytics</a>	Financial Years 2004/05 to 2013/14	Excel [242kb]
2	<a href="#">Psychoses and related disorders</a>	Financial Years 2004/05 to 2013/14	Excel [325kb]
3	<a href="#">Antidepressants</a>	Financial Years 2004/05 to 2013/14	Excel [397kb]
4	<a href="#">Attention Deficit Hyperactivity Disorder</a>	Financial Years 2004/05 to 2013/14	Excel [176kb]
5	<a href="#">Dementia</a>	Financial Years 2004/05 to 2013/14	Excel [159kb]

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## Further Information

Further information can be found on the [ISD website](#)

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Appendix

## A1 – Background Information

### How the data are obtained

[Practitioner Services](#) process all NHS prescriptions for payment of pharmacists, dispensing doctors and appliance suppliers. This gives a full record from which trends in prescribing can be investigated at a detailed level. The data includes prescribing by GPs, nurses, dentists, pharmacists and hospitals, where the latter was dispensed in the community. Hospital dispensed prescriptions are not included in the figures. The Information Services Division (ISD) cannot ascertain what proportion of the drug dispensed is actually consumed. These data do not include products purchased "over the counter". Prescriptions processed internally by Boards for payment purposes are not included in these data.

### Changes to publications – September 2014

#### Dispensed items

Where one of several items on a form is not dispensed, it is marked as 'not dispensed' by the dispenser (known as an endorsement type 90). Historically, these items have been processed as if they were dispensed, resulting in items that appeared to have been dispensed but with zero costs associated. At Scotland level around 20,000 items per month have an endorsement type 90 attached to them.

Recent work to improve the accuracy of prescriptions data has included a change to ensure these 'not dispensed' items are now excluded from both dispensed item counts and associated costs. This change has been applied to data in the Prescribing Information System (NHSScotland's national prescribing database) from 1<sup>st</sup> April 2013 to date. When the 'not dispensed' items are excluded from analysis, figures show an approximate reduction of less than 0.4% in the number of dispensed items and an increase in the cost per item compared to when they are included.

This affects all the data tables in this publication; however the change has been applied to 2013/14 data only, previous years' data will not be updated and this should be noted when considering time series data.

#### Population Data

The populations in the tables have been updated to the NRS re-based estimates based on the 2011 census. The rebased population estimates are only available for the current NHS Board breakdown while the data on DDDs for 2004/05 and 2005/06 are only available for the pre 2006/07 NHS Board breakdown. Therefore, the NHS Board data for DDDs per 1000 population is only shown for 2006/07 onwards (8 years trend data rather than 10). The Scotland level rows continue to show a ten year trend (i.e. tab 3 in each of the workbooks show full trend).

The rebased populations are slightly increased compared to previous estimates, however the effect of this change is small reductions in the number of DDDs per 1,000 population per day (generally less than 1% for each section). This affects 2006/07 to 2010/11 data.

## A2 – Publication Metadata (including revisions details)

Metadata Indicator	Description
Publication title	NHS Scotland Prescribing – Medicines used in mental health
Description	Summary and detailed statistics on prescribing and dispensing in the community in Scotland including: Medicines used in mental health (based on BNF section 4.1, 4.2, 4.3, 4.4 and 4.11) presented for NHS Scotland and by NHS board. The number of patients, number of items, gross ingredient cost and defined daily doses are shown.
Theme	Health and Social Care
Topic	Health Care Personnel, Finance and Performance
Format	Excel workbooks
Data source(s)	Prescribing Information System (PIS). All data held in PIS is sourced from Practitioner Services Division (PSD) within NHS National Services Scotland who are responsible for the remuneration and reimbursement of dispensing contractors within Scotland.
Date that data are acquired	Data are acquired on a monthly basis from PSD following payment approximately 2 calendar months after the end of the month being claimed for payment by contactors
Release date	30 September 2014
Frequency	Annual
Timeframe of data and timeliness	The publication includes data up to 2013/14.
Continuity of data	Data are held in PIS for the most recent 12 years and is stored in archive files back to 1993/94. The definition of the main measures such as gross ingredient cost and number of items are unchanged over this period. Drug products are first licensed as proprietary medicines but generic versions often appear once the original patent expires. This can affect the price and uptake of these drugs. The Scottish Government sets the reimbursement price of generic drug products via the <a href="#">Scottish Drug Tariff</a> which is updated and issued quarterly. Population figures have been updated as explained in the 'Changes to Data' section, which affects the trend of DDDs per 1000 population.
Revisions statement	Data are sourced from monthly pharmacy payments data on an ongoing basis therefore once published there is no routine requirement to revise historical data. Retrospective revisions can occur in the classification of drugs in the <a href="#">British National Formulary</a> (BNF). Where this occurs and is deemed to be significant in line with ISD's Revisions policy,

	a revision will be made to published data. This will be notified on the website.
Revisions relevant to this publication	<p>The populations used have been updated to the NRS re-based estimates based on the 2011 census. Changes have been applied to all data in the accompanying tables (showing 2004/05 – 2013/14 data).</p> <p>Changes have also been made to dispensed items in the data tables. Recently a change has been implemented to improve the accuracy of the information available. Data for 2013/14 has been updated but no previous data will be revised.</p>
Concepts and definitions	The data published in all these releases correspond to prescriptions that have been prescribed in Scotland and dispensed in the community in Scotland, or elsewhere in the UK i.e. dispensed by a pharmacy, dispensing doctor or appliance supplier. These data do not include prescription drugs that were supplied and administered to patients in a hospital setting. Prescriptions issued in hospital to patients on discharge and dispensed in the community are included. Each excel workbook contains further detailed definitions of the main measures.
Relevance and key uses of the statistics	These statistics are the primary source of patient level data on prescribing for mental health within Scotland. They are also used to compare prescribing patterns across Health Boards and over time
Accuracy	The data are sourced from a payment system and routine monthly checks are carried out by PSD on a random sample of approximately 5% of prescription payments. These check all data captured for payment and the accuracy of the payment calculation and have a target accuracy of 98% which is routinely met. Data that is captured but is not mandatory for payment purposes can be of lower quality; principally this includes the prescriber code which links a prescription back to the individual prescriber e.g. GP and their organisation including NHS Board. Routine monitoring of unallocated prescriptions is carried out and correct codes are applied before publication. This ensures that unallocated prescriptions account for fewer than 2% of all prescriptions. For remaining unallocated prescriptions, the prescribing NHS Board is assumed to be the same as the dispensing NHS Board.
Completeness	The Prescribing Information System holds information on 100% of NHS Scotland prescriptions dispensed within the community and claimed for payment by a pharmacy contractor (i.e. pharmacy, dispensing doctor or appliance supplier). It does not include data on prescriptions dispensed but not claimed (likely to be very small) or prescriptions prescribed but not submitted for dispensing by



	a patient. Some research has estimated these latter prescriptions to account for around 6% of all prescriptions issued to patients. It is not possible to determine from payment data how much of the medicine dispensed to patients is actually taken in accordance with dosage instructions.
Comparability	The main measures of drug ingredient cost and volumes of items dispensed in the community are comparable across the UK countries. However it should be noted that the Gross Ingredient Cost (GIC) within Scotland is equivalent to the Net Ingredient Cost (NIC) in England, i.e. the reimbursement cost of drugs before any pharmacy discounts are applied. Also each country determines its own dispensing fees based on separate contractual arrangements with dispensing contractors in each country. A common formulary called the <a href="#">British National Formulary</a> (BNF) is used to classify drugs based on therapeutic use.
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to <a href="#">published guidelines</a> .
Coherence and clarity	All prescribing tables are accessible via the <a href="#">ISD website</a> . Prescribing statistics are presented within excel spreadsheets for NHS Scotland and where appropriate broken down by NHS Board.
Value type and unit of measurement	The main unit of measure of drug reimbursement costs presented is Gross Ingredient Cost (GIC) quantity. The main measures of drug volume are items (the number of individual drug items on a prescription form), and defined daily doses (DDDs - estimated average daily maintenance doses for a total quantity of prescribed). Further details and definitions can be found in the glossary.
Disclosure	The <a href="#">ISD protocol on Statistical Disclosure Protocol</a> is followed.
Official Statistics designation	National Statistics
UK Statistics Authority Assessment	<a href="#">Assessment</a> by UK Statistics Authority completed and assessment report issued.
Last published	24 September 2013
Next published	29 September 2015
Date of first publication	December 2006
Help email	<a href="mailto:NSS.isdprescribing@nhs.net">NSS.isdprescribing@nhs.net</a>
Date form completed	10th September 2014

## **A3 – Early Access details (including Pre-Release Access)**

### **Pre-Release Access**

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are 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 and, separately, those receiving extended Pre-Release Access.

#### **Standard Pre-Release Access:**

- Scottish Government Health Department
- NHS Board Chief Executives
- NHS Board Communication leads

#### **Extended Pre-Release Access**

Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

- Scottish Government Health Department (Analytical Services Division)

#### **Early Access for Management Information**

These statistics will also have been made available to those who needed access to 'management information', ie 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:

## A4 – ISD and Official Statistics

### About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

**Purpose:** To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

**Mission:** Better Information, Better Decisions, Better Health

**Vision:** To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

### Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD's statistical publications are currently classified as one of the following:

- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.