

4. Results

4.1 Trends in the number of adults treated with stimulant medication for the first time

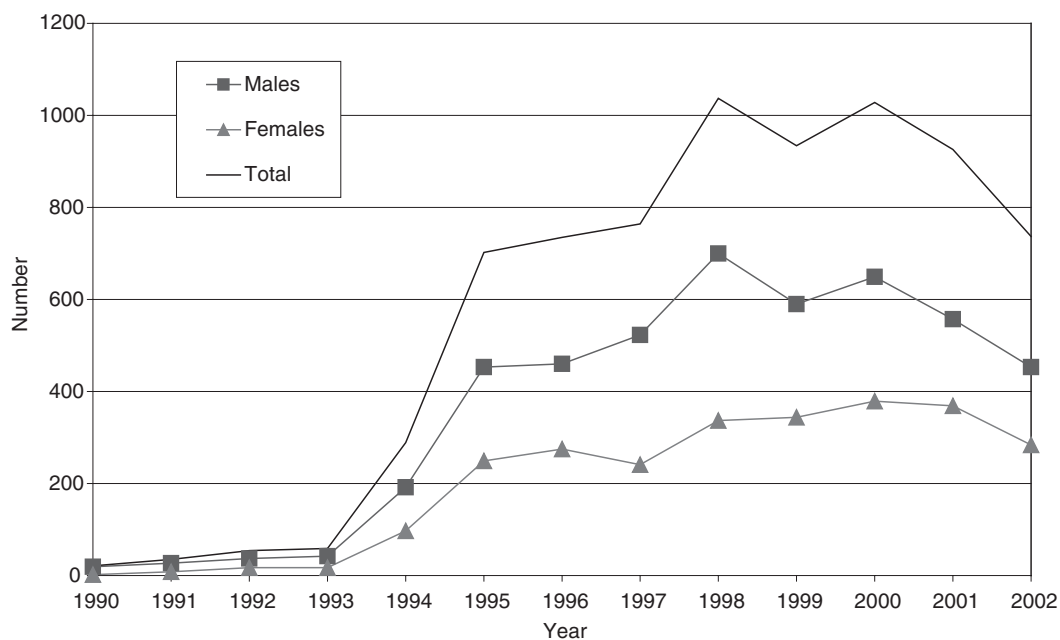
4.1.1 Sex

Figure 1 shows the annual number of adults who were commenced on stimulant medication for the treatment of ADHD for the first time in the period 1990 to 2002 by sex. It can be seen that a steep increase occurred from 1990 to 1998 in the overall number of adults who commenced treatment. In 1990, just 21 adults started treatment for the first time, while in 1998 the figure was 1,037. From 2000 to 2002 there was a downward trend in the number of adults with ADHD who were started on stimulant medication for the first time.

For both males and females with ADHD, there was an upward trend in the numbers starting stimulant treatment for the first time, with the increase for females being greater than the increase for males. For example, from 1992 to 2002 there was almost a 17-fold increase in the number of adult females with ADHD commenced on stimulant medication. The increase for adult males for this period was 12-fold. Accordingly, the percentage of adult males commenced on stimulant medication for the first time fell. Whereas from 1990 to 1993 the proportion who were male was about 70 per cent or more, the proportion in 2001 and 2002 was less than 62 per cent.

Figure 1

Number of adults with ADHD commenced on stimulant medication for the first time by year of commencement and sex, 1990 to 2002



Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

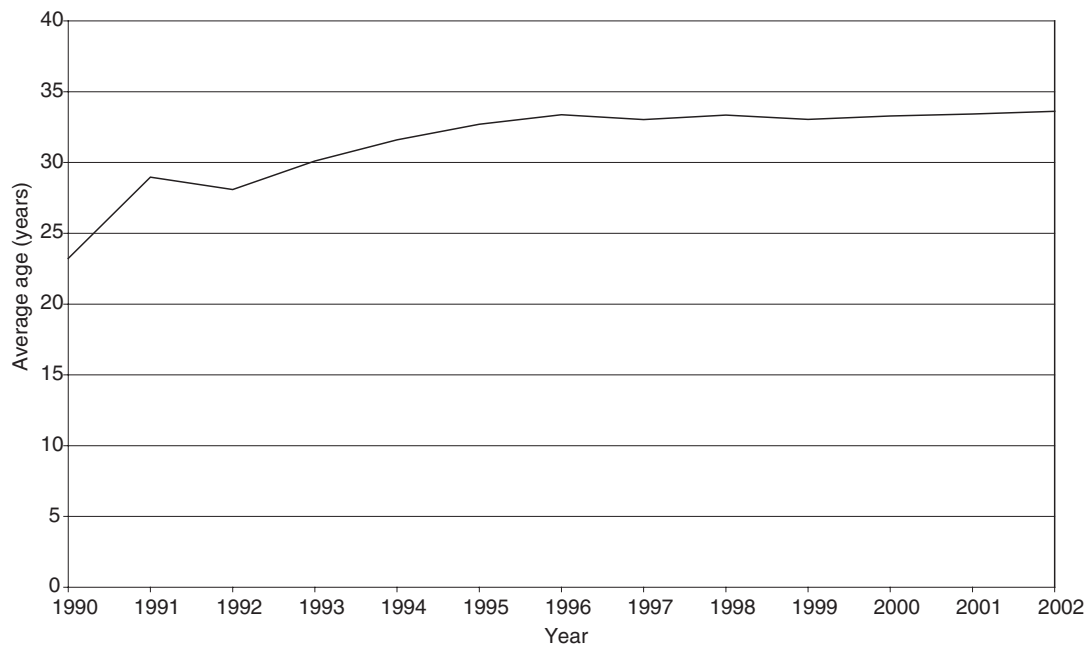
4.1.2 Age at commencement

Over the period 1990 to 2002, the population of adults commenced on stimulant medication for the treatment of ADHD for the first time generally aged. In 1990 the average age was 23.2 years (SD=7.7 years) compared with 33.6 years (SD=10.8 years) in 2002. Figure 2 shows the average age of adults commenced on stimulant medication for each year in the period 1990 to 2002.

Figure 3 shows the relative frequency distribution of age for adults commenced on stimulant medication for the first time in the years 1992 and 2002. Whereas in 1992 two-thirds of adults commenced on stimulants were aged less than 30 years, in 2002 60 per cent were aged 30 years or older.

Figure 2

Average age of adults with ADHD commenced on stimulant medication for the first time by year of commencement, 1990 to 2002



Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

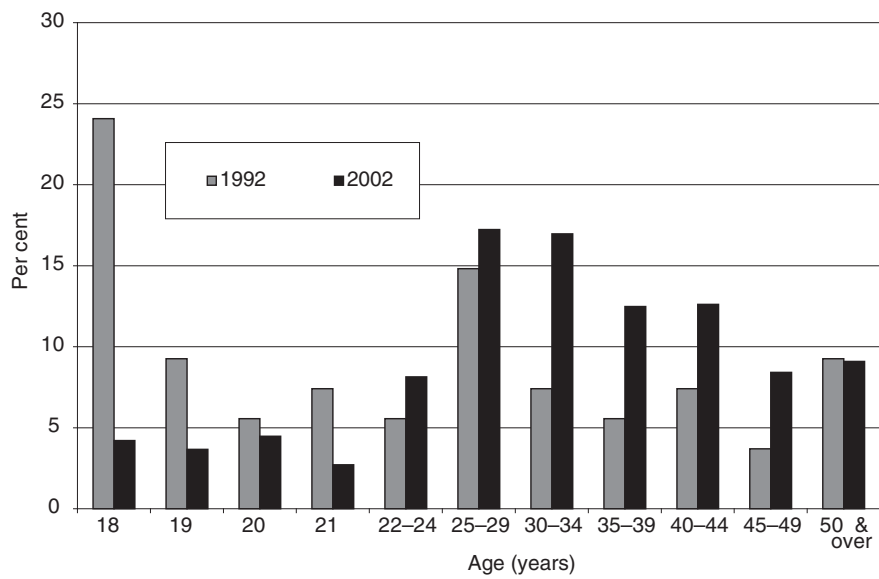
4.1.3 Drug

Figure 4 shows the number of adults with ADHD commenced on stimulant medication for the first time in the period 1990 to 2002, according to the drug initially used for treatment. With the minor exception of 1990, more adults were initially treated with dexamphetamine than were treated with methylphenidate. However, it is apparent from Figure 4 that the relative popularity of dexamphetamine in recent years has waned. In 1998 the proportion of adults who were initially treated with dexamphetamine was 87.3 per cent. In 2002, the proportion had declined to 82.0 per cent.

This pattern of more adults starting on dexamphetamine than methylphenidate generally occurred across all age groups.

Figure 3

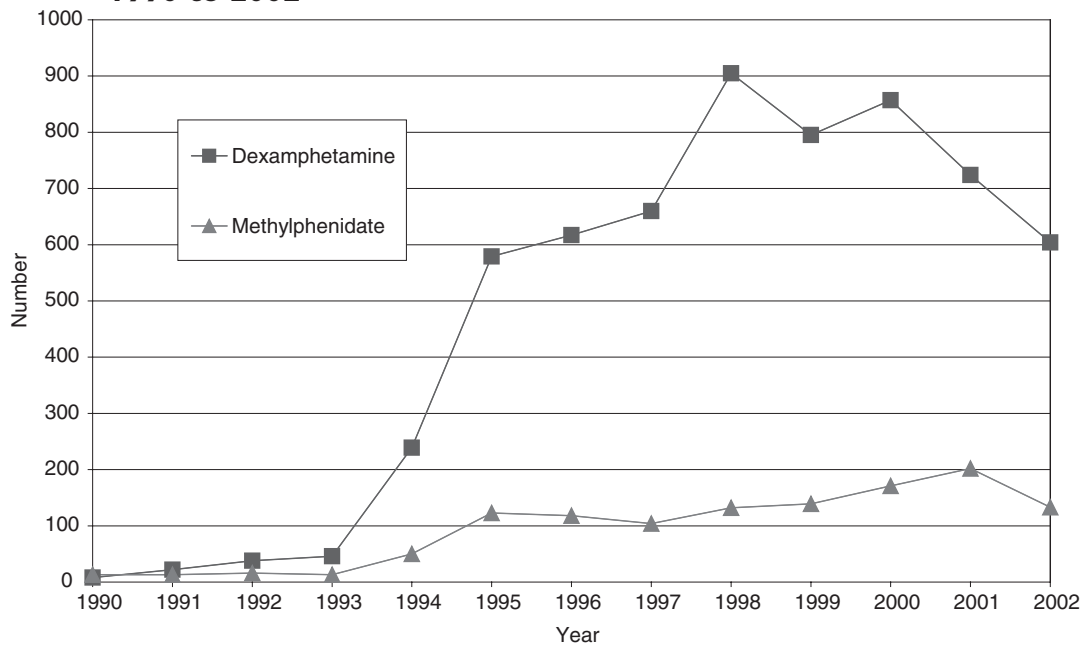
Relative frequency distribution of age for adults with ADHD commenced on stimulant medication for the first time, 1992 and 2002



Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

Figure 4

Number of adults with ADHD commenced on stimulant medication for the first time by year of commencement and drug, 1990 to 2002



Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

4.2 Characteristics of adults who commenced treatment for the first time (November to December 2002)

In the period 1 November to 31 December 2002, 98 adults were commenced on stimulants for the treatment of ADHD for the first time. The characteristics of these adults are shown in Table 1. It should be noted that the characteristics presented in Table 1 are based on information supplied in medical reports by doctors treating the adults. Thus, a person's failure to be included in the prevalence rate may be due to non-reporting rather than an absence of the characteristic. Accordingly, the actual prevalence of some characteristics may be higher than that indicated in Table 1. The prevalence of a characteristic, where applicable (for example: depression), is based on the adult's lifetime experience of that characteristic; the characteristic may have been present at the time of initial treatment or may have occurred some time in the past.

Of those adults who were treated with stimulant medication for ADHD for the first time in the period November to December 2002, 54 (55.1 per cent) had some type of current or previous mental health problem other than ADHD. Forty-four adults (44.9 per cent) had current or previous depression, while 19 (19.4 per cent) had current or previous anxiety. Fourteen (14.3 per cent) had experienced depression and anxiety at some stage. Other types of mental problems experienced included mood disorder, social phobia, and eating disorder.

Table 1

Characteristics of adults treated with stimulant medication for ADHD for the first time, 1 November to 31 December 2002 (N=98)

| Characteristics | Number | Per cent |
|---------------------------------|--------|----------|
| Male | 54 | 55.1 |
| Age | | |
| less than 20 yrs | 5 | 5.1 |
| 20–29 yrs | 37 | 37.8 |
| 30–39 yrs | 29 | 29.6 |
| 40–49 yrs | 21 | 21.4 |
| 50 yrs or over | 6 | 6.1 |
| Depression | 44 | 44.9 |
| Anxiety | 19 | 19.4 |
| Other mental health problem | 8 | 8.2 |
| Familial ADHD | 16 | 16.3 |
| Substance abuse | 13 | 13.3 |
| Non-stimulant medication | 31 | 31.6 |
| Non-medication treatment | 24 | 24.5 |
| Electrophysiological assessment | 35 | 35.7 |
| Follow-up | | |
| improvement | 53 | 54.1 |
| mixed | 5 | 5.1 |
| no information available | 40 | 40.8 |

According to medical reports, about 16 per cent of adults who were treated with stimulants for ADHD for the first time in November to December 2002 had a relative (such as a child, sibling, or nephew) with ADHD.

In 13.3 per cent of cases, the person's history included substance abuse or use that was regular or problematic. In these cases, the use of cannabis was particularly common. Other substances used included: alcohol, ecstasy, amphetamines, cocaine, heroin, LSD, and therapeutic narcotics. In some cases the person's pattern of illicit drug use was described by the treating doctor as 'self-medicating'.

Almost one-third (31.6 per cent) of adults who commenced stimulant treatment in the period November to December 2002 were taking or had taken a prescribed non-stimulant medication for their mental health, such as: antidepressants, antipsychotics, anticonvulsants, benzodiazepines, or clonidine.

About one-quarter (24.5 per cent) were reported to have undergone some type of non-medication treatment. These treatments included psychotherapy, cognitive behaviour therapy (CBT), counselling, supportive therapy, participation in a social phobic program, attendance at an anxiety clinic, and self-hypnosis.

In more than one-third of cases (35.7 per cent), electrophysiological assessment had been conducted or referred for the patient. The Wender Utah Rating Scale (WURS) was the next most commonly mentioned assessment tool. Often patients who had undergone electrophysiological assessment had been assessed using the WURS, as well as the Symptom Checklist-90-R (SCL-90-R)⁹² and the Beck Depression Inventory (BDI).⁹³

In 58 cases, follow-up information on the effects of stimulant treatment were available. About 91 per cent of these adults reported an improvement in their ADHD symptoms. In the remaining cases, the treatment produced mixed results.

Some individual cases are described below.

Case 1: 'Graham', age 51 years

Graham is a 51 year old married man who has suffered ADHD since childhood. As a child he was extremely impulsive. He suffered from behavioural problems at school and daydreamed in class.

Although he runs his own business, he finds it very difficult to make decisions. He procrastinates and has great difficulty starting and finishing tasks. He says he is easily distracted, very forgetful, and has poor attention and concentration. He also says he is a poor judge of time.

Graham underwent electrophysiological assessment, which his doctor provides to support the application to prescribe dexamphetamine.

A follow-up report eight months after Graham commenced treatment with dexamphetamine indicates that he has benefited from the treatment. Graham's doctor reports he is less likely to procrastinate, and finds it much easier to initiate and finish tasks, as well as stay focused on his work. Treatment with dexamphetamine is to continue.

Case 2: 'Jan', age 32 years

Jan is a 32 year old married woman with two children under 10 years. She is seeing the doctor for assessment and management of her longstanding difficulties with distractibility, restlessness, and difficulties staying on task. In recent times these problems have led to difficulties in her marriage.

In primary school Jan was an inattentive student who daydreamed in class. As her schooling progressed, she struggled with restlessness and minor discipline problems related to being over talkative or disruptive in class. She recalled having difficulty with spelling and leaving homework until the last minute.

In her adult life, Jan is easily distracted and forgetful. She often starts things with great interest only to find herself getting quickly bored. As a result she jumps from one activity to another without finishing things. Jan's father provided information to support Jan's assertions of herself. He described himself as a dreamer who did not apply himself at school.

Jan feels she is a poor time manager and would like to concentrate better.

Following a five-month period on dexamphetamine, Jan's doctor reports that Jan feels calmer and less physically restless. As a consequence she is better able to stay on task and organise her daily life. She describes herself as being able to think more clearly, and feels more in control of her circumstances.

She experienced mild headaches on dexamphetamine as well as some mood lowering effects. She said she was sleeping and eating well and did not believe her mood disturbance affected her work or interaction with her children. In light of the mood effects, Jan agreed to her doctor's suggestion to trial methylphenidate.

Case 3: 'Jeremy', age 26 years

Jeremy is a 26 year old married man who has recently undergone successful treatment (a combination of CBT and antidepressant medication) for depression.

He continues to have symptoms of poor concentration, attention, and disorganisation, which have persisted since childhood. These symptoms are particularly evident at work. He describes himself as feeling increasingly fidgety, although he tries to suppress this behaviour as he feels it is socially unacceptable.

Dexamphetamine is prescribed for Jeremy. According to a four-month progress report, Jeremy is doing extremely well. His ADHD symptoms have markedly improved. There have been no significant side effects from the dexamphetamine treatment and no depressive symptoms have reappeared. The doctor has also been treating Jeremy with an antidepressant and there have been no adverse interactions. The doctor recommends Jeremy continue with his current treatment regimen, including CBT.

Case 4: 'Richard', age 55 years

Richard presents to the doctor because of a proneness to depression. He has symptoms of ADHD. He has difficulty getting started on tasks and tends to procrastinate excessively. He is highly distractible and tends to sidetrack a lot. He often daydreams and finds it difficult to stop. He fails to complete tasks and finds that his mind wanders if he is not particularly interested in the task. He has difficulty with focusing and the quality of his work is inconsistent. The doctor describes him as being moderately irritable and markedly oversensitive to criticism. He has difficulties with short-term memory, tending to lose track of personal possessions.

He has a lot of mental hyperactivity; he needs to be busy constantly and is more comfortable moving around than he is sitting quietly.

An electrophysiological assessment has been undertaken which the doctor provides to support the application to prescribe dexamphetamine.

In his progress report at six months after commencing treatment with dexamphetamine, Richard's doctor reports that he is doing well. The initial dose was reduced, and no side effects of any significance have occurred.

Richard reports being more patient, more tolerant, and less irritable. There has been a dramatic increase in his ability to focus and stay on task. His ability to prioritise has also improved. He is acting in a more senior role at work which has been extended for a longer period.

Case 5: 'Robyn', age 29 years

Robyn has a history characterised by significant symptoms of anxiety and depression. More prominently she has a lifelong history of ADHD. In class as a child she was quite disruptive and could only pay attention when she was very interested in what was going on.

As an adult she has problems organising herself. She has difficulty sustaining attention as well as energy and effort. Other symptoms include irritability, short-term memory difficulty, impulsiveness, and mental hyperactivity.

She has tried two different antidepressants without improvement. Her doctor prescribes dexamphetamine.

Reporting on her progress five months later, Robyn's doctor reports that her improvement is quite impressive. Robyn is less easily distracted, less easily sidetracked and more likely to complete things she starts. Her focus has improved quite significantly, as has her ability to keep her mind on what she is reading. She is able to focus on conversations and her effort fades less quickly. Her irritability has improved quite markedly and there has been a marked decrease in mental hyperactivity.

Case 6: 'James', age 33 years

James is a married man with four children aged under 10 years. He is experiencing marital difficulties. James' work involves operating machinery.

James has always thought there was something wrong with his abilities to learn, concentrate and to remember. As a child he was slow to speak clearly, and had serious problems with comprehension of the written word and difficulties with memory. In class he was distractible and disruptive. He was impulsive and often reckless as a child.

As an adult, he has difficulty putting his ideas into practice. He has had countless jobs in his life. Despite the fact that he works hard, he has had a lot of difficulty with being consistent and organised in his work. He doesn't give much thought to the consequences of his actions.

He has a history of amphetamine abuse (intravenous 'speed'). He found it calms him and allows him to focus. Recently, he has reduced his usage to once or twice weekly and does not experience significant withdrawal symptoms or craving. He has occasionally used marijuana.

He has been treated with antidepressants for depression in the past but he did not tolerate them well.

Dexamphetamine is prescribed for James. A progress report after three months treatment indicates that James has been able to make some major improvements in his life. He has started his own business, and is able to manage the tasks required of this, such as bookwork. He is able to cope with daily tasks and decisions, cope with frustrations, and choose a more stable life than he has had

in many years. He has separated from his wife but one of their children is living with him. He has ceased using illicit amphetamines and is relieved to be away from those who use and sell them.

Case 7: 'Fiona', age 36 years

Fiona is a married woman with two children aged under 15 years. Her visit to the doctor appears to have been precipitated by the recent diagnosis of ADHD in one of her children. Fiona works with her husband in his business.

In primary school Fiona recalls being easily bored in class. She was frequently chastised by her teachers for failing to complete homework and not living up to her potential. Her academic problems were compounded by her poor spelling ability.

She has difficulty retaining to memory the written word. She is disorganised, has poor short-term memory, and is impulsive. She often attempts to do several things at once but she fails to finish tasks because of her propensity to get distracted. She budgets poorly, spending her money as soon as she earns it. She is prone to butting into conversations or saying things she later regrets. Her husband has expressed unhappiness at the impact her symptoms have had on her family life and business.

Fiona experienced post natal depression after the birth of her second child, which resolved itself without treatment. She suspects her father had ADHD.

Fiona is prescribed dexamphetamine. Her response to the medication was initially disappointing. After an increase in dose Fiona reported experiencing noticeable changes in her ability to concentrate and stay on task. A six-month progress report indicates that Fiona is able to read and retain to memory the written word. She is able to organise herself and plan ahead. She is using diaries and weekly planners to assist with this. Fiona reports she is less likely to act impulsively out of boredom or frustration, and she believes she is happier on medication. She reports being more productive at work. Her sleep and appetite are unaffected.

Case 8: 'David', age 30 years

David is a 30 year old married man with no children. He is employed in a professional position and is undergoing tertiary studies.

He recalls a history of distractibility and underachievement at school. He abandoned his education at the year 10 level despite having a good potential for academic achievement.

As an adult, he has problems with inattention and distractibility, and has difficulties organising himself. These problems have become of such significance at work that he has been threatened with dismissal.

He has been treated with antidepressants for symptoms of anxiety and social phobia, and has participated in a social phobia program. He continues to take an antidepressant which helps him to control his anxiety symptoms but the medication does not alleviate his ADHD symptoms.

After four months treatment on methylphenidate, the doctor reports that there has been a very noticeable improvement in David's symptoms. He has been much better organised at work and has been able to step up to a new position that requires more organisation and responsibility.

Case 9: ‘Maria’, age 47 years

Maria is a 47 year old married woman with two children aged under 15 years. She works as a manager.

She has had ADHD symptoms throughout her life. Her natural ability and intelligence have allowed her to conceal her deficits, and she has succeeded in a difficult work environment by utilising the skills of others.

One of her children has been diagnosed with ADHD and she has been heartened by the child’s response to stimulant treatment. She now wants to obtain relief from her symptoms. She does not have symptoms or signs of any other psychiatric problem.

Maria’s doctor prescribes dexamphetamine. He reports that Maria is doing extremely well after eight months of treatment. She has had no side effects or complications from the medication. She is coping better in her workplace. Maria reports that she would have liked her short-term memory to have improved, but an increase in dose had adverse effects (insomnia and feelings of overstimulation). The doctor considers that these effects may have been due to an increase in stress Maria is experiencing at her workplace, and will review her medication once her stress levels have lowered.

4.3 Trends in the rate of adults treated with stimulant medication

4.3.1 Sex

Figure 5 shows the rate (per 10,000 NSW resident population aged 18 years or over) of adults treated with stimulant medication for ADHD as at 30 June for each year in the period 1993 to 2003 according to sex. Over this period, the rate of adults on stimulants for the treatment of ADHD increased markedly, going from less than 0.3 per 10,000 resident population in 1993, when there were fewer than 120 adults on stimulants, to seven per 10,000 resident population in 2003, when there were more than 3,500 adults on stimulants. This represents about a 27-fold increase in the overall rate from 1993 to 2003.

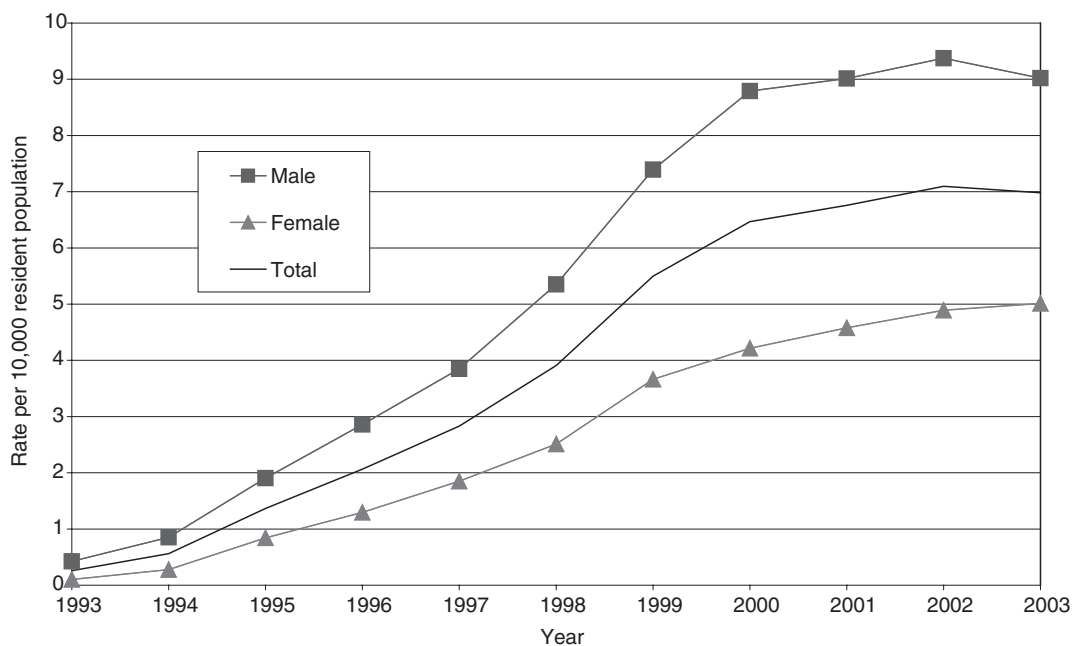
The rate for both sexes increased, but the increase in the rate for adult females was greater than that for adult males. From 1993 to 2003 the increase in the rate of women on stimulant medication was almost twice the average increase. Although the increase in the rate of men on stimulants from 1993 to 2003 was substantial, it was less than the average increase.

A comparison of the sex ratios in 1993 and 2003 also illustrates the increase. Whereas in 1993 the rate for men was 4.2 times the rate for women, the rate for men in 2003 was 1.8 times the rate for women.

It is apparent from Figure 5 that the rate of adults on stimulant medication has slowed in recent years.

Figure 5

Rate per 10,000 NSW resident population of adults treated with stimulant medication for ADHD by year and sex, as at 30 June, 1993 to 2003



Note: NSW resident population based on Australian Bureau of Statistics estimates as at 30 June.⁹⁰
Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

4.3.2 Age

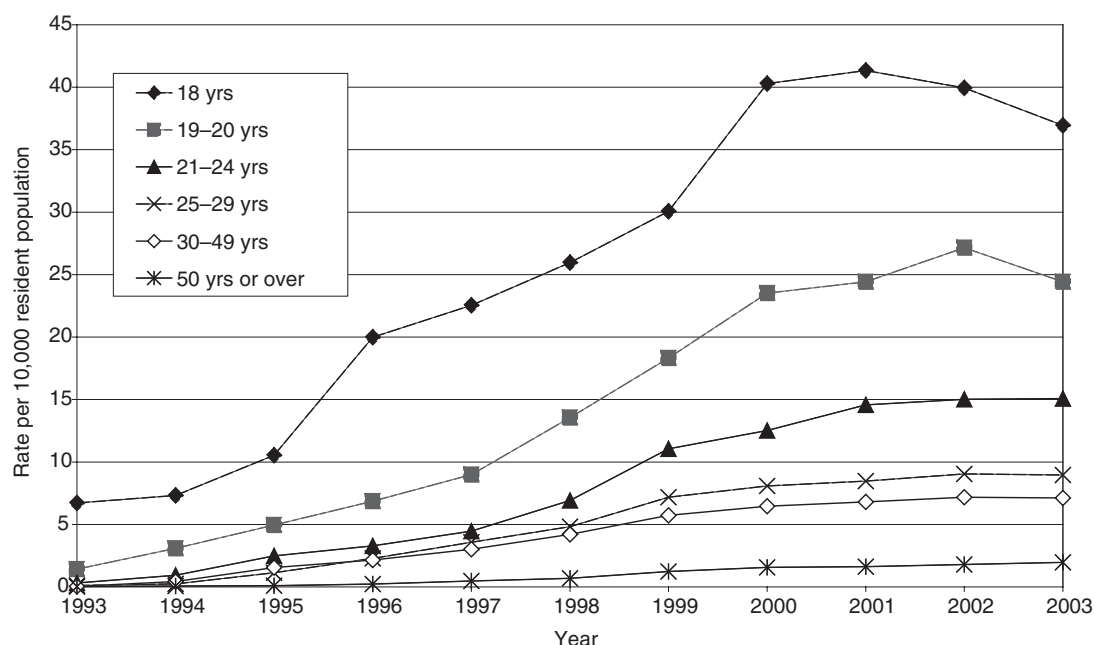
Figure 6 shows the rate (per 10,000 NSW resident population) of adults treated with stimulant medication for ADHD as at 30 June for each year in the period 1993 to 2003 according to age. Over this period, the rate of adults on stimulant medication for the treatment of ADHD generally increased for all groups, particularly during the 1990s. For some age groups the increase was much greater than others, largely because very few adults were on stimulant treatment in 1993 at the start of the trend period.

The rate for all adults on stimulant medication is not shown in Figure 6 but closely follows the trend line for the 30–49 year old age group. It should be noted that although the trend in the rate of stimulant treatment for 30–49 year olds over the period 1993 to 2003 was similar to the trend for all adults, the rate for adults aged 30–49 years in 1993 (less than 0.1 per 10,000 resident population) was much smaller than the average rate in 1993 (0.3 per 10,000 resident population).

Of all age groups, the 30–49 year olds had the largest increase in the rate of treatment from 1993 to 2003, being 5.3 times the average increase. The increase in treatment rate for adults aged 25–29 years was next at 3.1 times the average increase. For those aged 50 years or over the increase was 2.3 times the average increase, and for those aged 21–24 years it was 1.8 times the average increase. Adults aged less than 21 years experienced the smallest increases in rate of treatment, which were less than the average increase.

Figure 6

Rate per 10,000 NSW resident population of adults treated with stimulant medication for ADHD by year and age, as at 30 June, 1993 to 2003



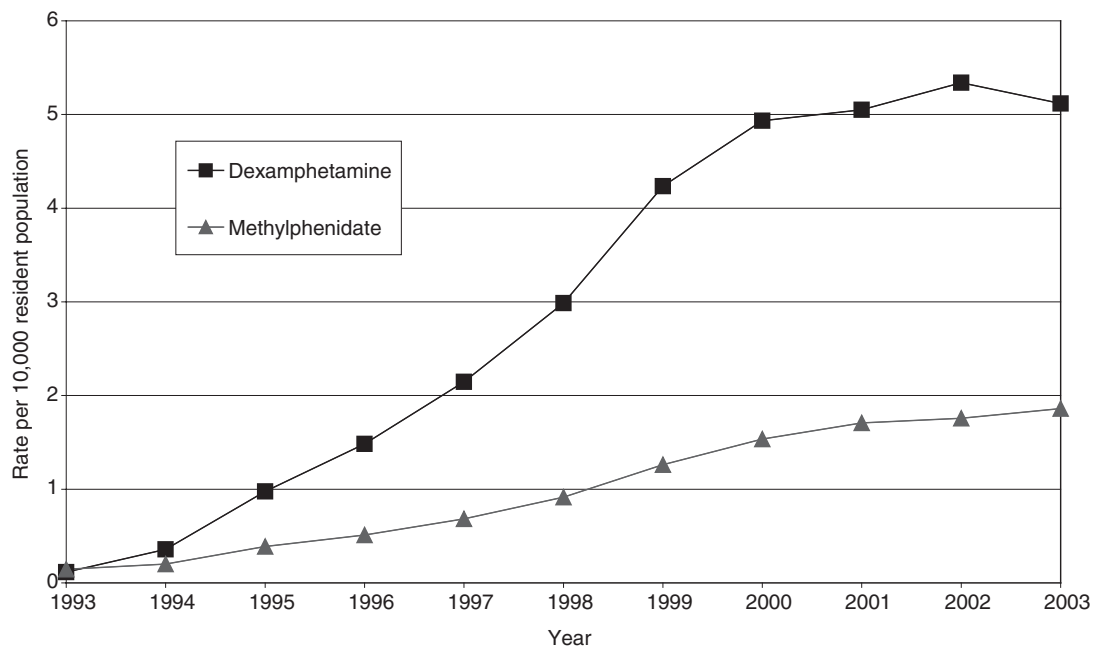
Note: NSW resident population based on Australian Bureau of Statistics estimates as at 30 June.⁹⁰
Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

4.3.3 Drug

Figure 7 shows the rate (per 10,000 NSW resident population aged 18 years or over) of adults treated with stimulant medication for ADHD as at 30 June for each year in the period 1993 to 2003, according to the drug used for treatment. For almost the entire period the rate of adults on dexamphetamine was higher than the rate of adults on methylphenidate. Further, the rate of increase for dexamphetamine was greater than that for methylphenidate. The increase in the rate of dexamphetamine from 1993 to 2003 was 3.5 times greater than the comparable increase in the rate for methylphenidate.

Figure 7

Rate per 10,000 NSW resident population of adults treated with stimulant medication for ADHD by year and drug, as at 30 June, 1993 to 2003



Note: Rates for the years 1996 to 1998 and 2003 exclude a small number of adults for whom the drug used could not be determined. NSW resident population based on Australian Bureau of Statistics estimates as at 30 June.⁹⁰

Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

4.4 Characteristics of adults treated with stimulant medication

4.4.1 Age and Sex

Table 2 shows the number of adults with ADHD who were treated with stimulant medication as at 30 June 2003, according to their age and sex. It also shows the ratio of males to females.

As at 30 June 2003 there were 3,549 adults on stimulant medication for the treatment of ADHD. As seen in Table 2, the frequency distribution of age for males and females on stimulant medication was similar.

Men outnumbered women in each age group, ranging from 1.3 times as many men as women in the age group 40–44 years, to three times as many men as women among 21 year olds.

The average age of adults on stimulants as at 30 June 2003 was 32.3 years (SD = 12.3 years). On average, adult females on stimulant medication were slightly older than their male counterparts (33.7 years, SD = 12.2 years versus 31.6 years; SD = 12.2 years, respectively). The oldest person on stimulant medication as at 30 June 2003 was aged 82 years.

Table 2

Number and per cent of adults treated with stimulant medication for ADHD as at 30 June 2003 by age and sex

| Age (Years) | Males | | Females | | Total | | Ratio M/F |
|-------------|-------|------|---------|------|-------|------|-----------|
| | N | % | N | % | N | % | |
| 18 | 233 | 10.3 | 106 | 8.2 | 339 | 9.6 | 2.2 |
| 19 | 164 | 7.3 | 70 | 5.4 | 234 | 6.6 | 2.3 |
| 20 | 152 | 6.7 | 60 | 4.6 | 212 | 6.0 | 2.5 |
| 21 | 127 | 5.6 | 42 | 3.2 | 169 | 4.8 | 3.0 |
| 22–24 | 244 | 10.8 | 130 | 10.0 | 374 | 10.5 | 1.9 |
| 25–29 | 253 | 11.2 | 161 | 12.4 | 414 | 11.7 | 1.6 |
| 30–34 | 253 | 11.2 | 148 | 11.4 | 401 | 11.3 | 1.7 |
| 35–39 | 211 | 9.4 | 137 | 10.6 | 348 | 9.8 | 1.5 |
| 40–44 | 202 | 9.0 | 153 | 11.8 | 355 | 10.0 | 1.3 |
| 45–49 | 179 | 7.9 | 129 | 10.0 | 308 | 8.7 | 1.4 |
| 50–54 | 137 | 6.1 | 84 | 6.5 | 221 | 6.2 | 1.6 |
| 55 or over | 99 | 4.4 | 75 | 5.8 | 174 | 4.9 | 1.3 |
| Total | 2,254 | 100 | 1,295 | 100 | 3,549 | 100 | 1.7 |

Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

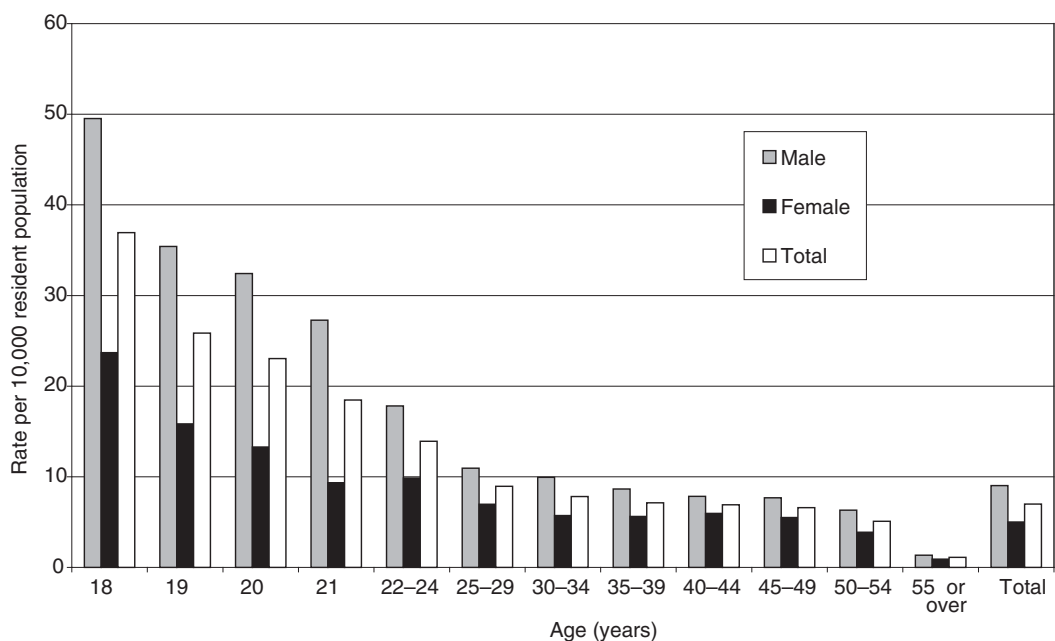
Figure 8 shows the rate (per 10,000 NSW resident population aged 18 years or over) of adults treated with stimulant medication for ADHD as at 30 June 2003 by age and sex.

The rate of adults on stimulant medication for the treatment of ADHD as at 30 June 2003 was seven per 10,000 resident population or about one in every 1,429 adults. The youngest adults had the highest rate, with 18 years olds (36.9 per 10,000 resident population) having a rate about five times the average.

As shown previously in Table 2, the ratio of males to females varied somewhat by age.

Figure 8

Rate per 10,000 NSW resident population of adults treated with stimulant medication for ADHD as at 30 June 2003 by age and sex



Note: NSW resident population based on Australian Bureau of Statistics preliminary estimates as at 30 June 2003.⁹⁰

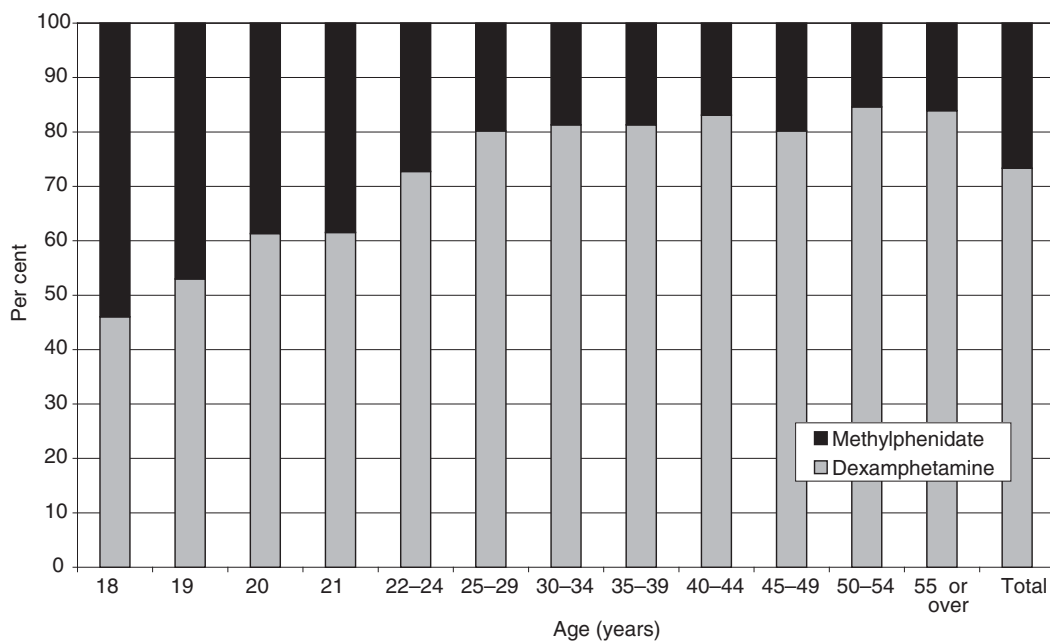
Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

4.4.2 Age and drug

Figure 9 shows the percentage of adults who were being treated with stimulant medication for ADHD as at 30 June 2003 according to the drug used for treatment and age. With the exception of 18 year olds, a greater proportion of adults were treated with dexamphetamine than methylphenidate for all age groups. Overall, 73.3 per cent of adults were treated with dexamphetamine compared with 26.7 per cent for methylphenidate.

Figure 9

Per cent of adults treated with stimulant medication for ADHD as at 30 June 2003 by age and drug



Note: Excludes two persons aged 18 years for whom the drug used could not be determined.

Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

4.4.3 Area health service of residence and sex

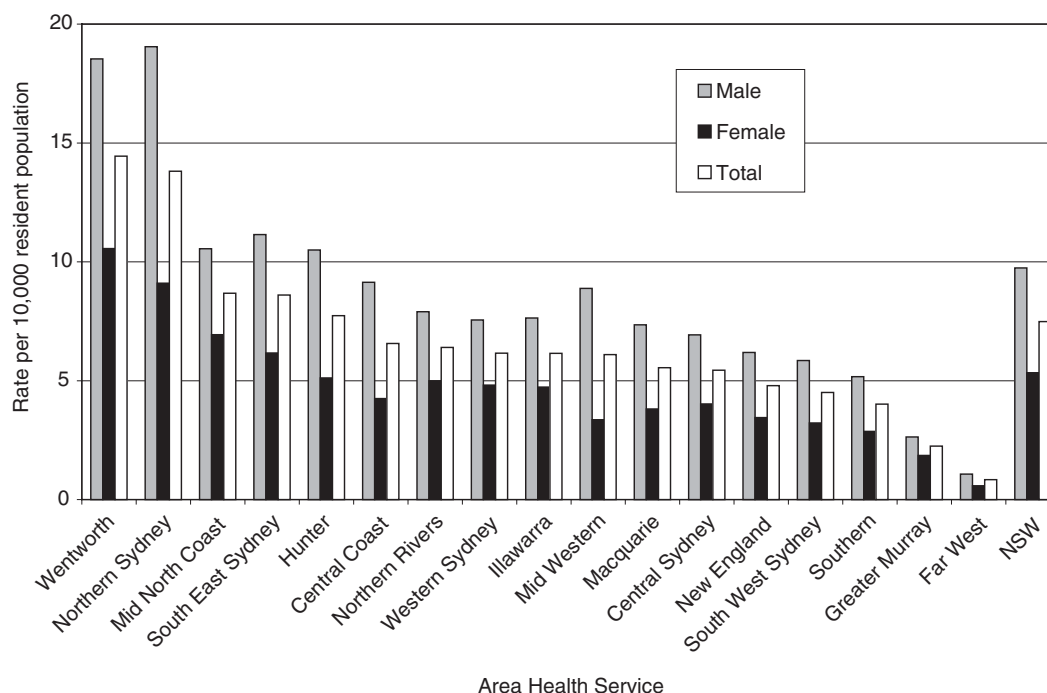
Figure 10 shows the rate (per 10,000 resident population aged 18 years or over) of adults treated with stimulant medication for ADHD as at 30 June 2003 for each area health service in NSW by sex.

The Wentworth Area Health Service had the highest overall rate (14.4 per 10,000 resident population) closely followed by the Northern Sydney Area Health Service (13.8 per 10,000 resident population). These rates were about 1.9 times the State average. The Far West Area Health Service had the lowest rate (0.8 per 10,000 resident population) followed by the Greater Murray Area Health Service (2.2 per 10,000 resident population).

In each area health service, the rate for males was higher than the rate for females, although the male to female ratio varied across areas. In the Greater Murray Area Health Service, for example, the rate for men was 1.4 times the rate for women. In contrast, the rate for men was 2.6 times the rate for women in the Mid Western Area Health Service.

Figure 10

Rate per 10,000 resident population of adults treated with stimulant medication for ADHD as at 30 June 2003 by area health service and sex



Note: Excludes seven people who were in a correctional facility. Resident population based on Australian Bureau of Statistics population data as at 30 June 2001.⁹¹

Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

4.4.4 Age status at initiation of treatment

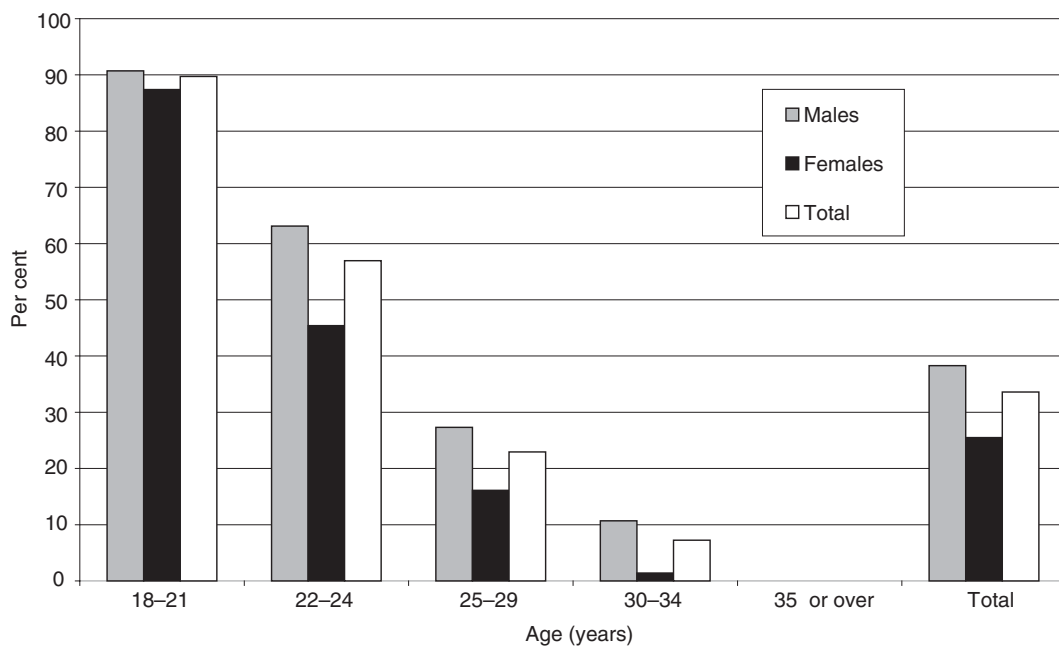
Figure 11 shows the proportion of adults on stimulants as at 30 June 2003 who were started on stimulant medication as a child according to age group and sex.

About one-third (33.6 per cent) of adults on stimulant medication as at 30 June 2003 were first started on stimulants when they were a child, while two-thirds were adults when initiated on stimulants. These proportions varied markedly according to age group. Almost 90 per cent of adults aged 18 to 21 years as at 30 June 2003 were first treated with stimulants when they were a child. This proportion fell to 57 per cent for adults aged 22–24 years, to 23 per cent for adults aged 25–29 years, and to 7.2 per cent for adults aged 30–34 years. No adult aged 35 years or over as at 30 June 2003 had been treated with stimulants as a child.

It can be seen in Figure 11 that proportionally fewer women were first commenced on stimulant medication as a child than were men. Overall, 25.5 per cent of women were first treated with stimulants as a child while the figure for men was 38.3 per cent.

Figure 11

Per cent of adults treated with stimulant medication for ADHD as at 30 June 2003 who were first treated with stimulants as a child, by age and sex



Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

4.4.5 Duration of stimulant treatment

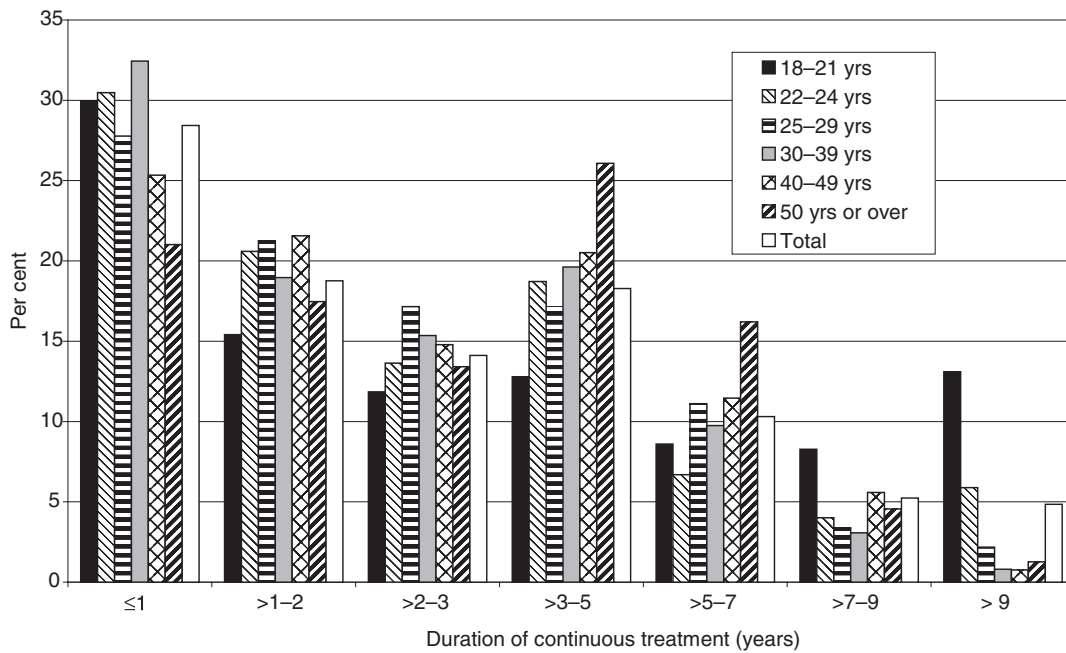
Figure 12 presents data on the length of time spent continuously on stimulant medication by adults with ADHD as at 30 June 2003 according to age. The time on medication includes any relevant periods as a child and as an adult.

Most adults on stimulant medication as at 30 June 2003 had been on stimulants for a relatively short period of time. However, a notable proportion were on medication for a long period. Overall, 20.4 per cent had been on medication continuously for more than five years. The proportion in continuous treatment for more than nine years was almost five per cent. The longest period an adult had been continuously on stimulant medication was about 17 years.

It can be seen in Figure 12 that the duration of treatment varied somewhat according to age. A higher proportion of younger adults were on medication for relatively long periods compared with older adults. Just over 13 per cent of adults aged 18–21 years had been on stimulant medication for more than nine years. The figure for adults aged 22–24 years was 5.9 per cent. Less than one per cent of adults aged 30 years or over had been on medication continuously for more than nine years.

Figure 12

Per cent of adults treated with stimulant medication for ADHD as at 30 June 2003 by duration of continuous treatment and age



Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health

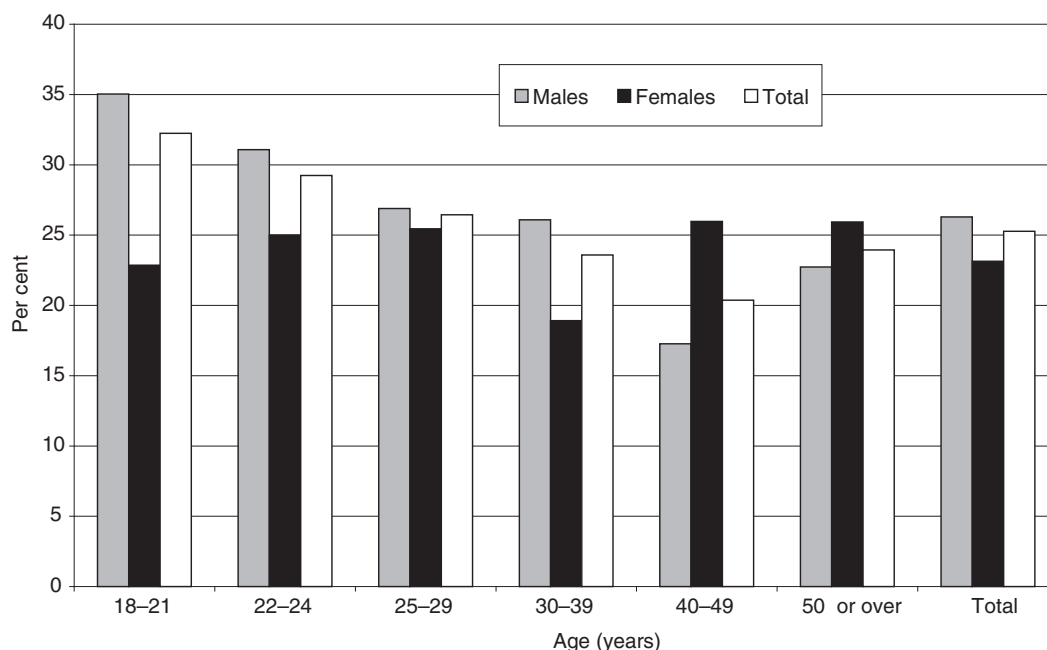
4.5 Attrition from stimulant treatment

Figure 13 examines attrition from treatment for adults who started stimulant treatment for ADHD for the first time in 1998. The percentage of adults who discontinued after the initial treatment episode (that is, the first authority or first prescription) by age and sex is presented in Figure 13.

Overall, about one-quarter of adults who started stimulants for the treatment of ADHD for the first time in 1998, discontinued treatment after the initial treatment episode. This percentage varied according to age and sex. Generally, males who were older when they started were less likely to discontinue after initial treatment than their younger counterparts. For example, 17.3 per cent of men aged 40–49 years discontinued treatment, while the proportion of men aged 18–21 years who discontinued treatment was 35.0 per cent. This pattern was not apparent for women.

Figure 13

Per cent of adults treated with stimulant medication for ADHD for the first time in 1998 who discontinued after the initial treatment episode by age and sex



Source: *Pharmaceutical Drugs of Addiction System*, Pharmaceutical Services Branch, NSW Department of Health