Substance use and misuse

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An open learning programme for pharmacists and pharmacy technicians

Substance use and misuse

CPPE
CENTRE FOR PHARMACY POSTGRADUATE EDUCATION

MANCHESTER 1824
The University of Manchester

Educational solutions for the NHS pharmacy workforce

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*December 2010*
About CPPE

The Centre for Pharmacy Postgraduate Education (CPPE) is funded by the Department of Health and offers continuing professional development opportunities for pharmacists and pharmacy technicians providing NHS services in England. We are based in the University of Manchester’s School of Pharmacy and Pharmaceutical Sciences.

CPPE offers a wide range of learning opportunities for the pharmacy workforce. Our full learning portfolio is available on the internet at: http://www.cppe.ac.uk

Themes

We have allocated themes to all our learning programmes. There are 28 themes in total and they allow you to navigate easily through our full learning portfolio. We have assigned a different colour to each of our themes, and this is used to identify the theme in news@CPPE, on our website, and on the covers of all the learning programmes.

This learning programme is part of the Substance use and misuse theme. You will find additional learning programmes within this theme in our prospectus and on our website.

You can download this programme in PDF format from our website: http://www.cppe.ac.uk/openlearning

CPPE 1 2 3

We recognise that people have different learning needs and not every CPPE learning programme is suitable for every pharmacist or pharmacy technician. Some of our programmes contain core learning, while others deliver more complex learning that is only required to support certain roles. So we have created three categories of learning – CPPE 1 2 3 – and allocated each programme to an appropriate category.

The categories are:

- **CPPE 1** Core learning (limited expectation of prior knowledge)
- **CPPE 2** Application of knowledge (assumes prior learning)
- **CPPE 3** Supporting specialisms (CPPE may not be the provider and will signpost you to other appropriate learning providers).

This is a CPPE 1 learning programme.

Continuing professional development

You can use this learning programme to support your continuing professional development (CPD). Consider what your learning needs are in this area. Use your CPD record sheets to plan and record the actions you have taken.
Activities

Exercises
We include exercises throughout this programme as a form of self-assessment. Use them to test your knowledge and understanding of key learning points.

Practice points
Practice points are an opportunity for you to consider your practical approach to the effective care of patients or the provision of a service. They are discrete activities designed to help you to identify good practice, to think through the steps required to implement new practice, and to consider the specific needs of your local population.

We have designed the practice points in this programme to help you and your team to make links between the learning and your daily practice and to co-ordinate with other healthcare professionals.

Case studies
We base case studies on actual or simulated events. They are included to help you to interpret protocols, deal with uncertainties and weigh up the balance of judgments needed to arrive at a conclusion. We design the case studies to prepare you for similar or related cases that you may face in your own practice.

Reflective questions
We have included reflective questions in this programme to give you an opportunity to reflect on what you already know, or on what you have read so far, to reinforce and extend your learning. Thinking about these questions will help you to meet the objectives of the programme.

Assessment
You can complete your learning of this programme by working through the associated assessment. This is available for you to complete and submit online, via the assessment menu on the CPPE website (http://www.cppe.ac.uk/assessment). If you are not successful, we offer automatic feedback after you have completed each section. We have designed the feedback to let you know the broad area where we think you would benefit from further learning, before attempting the assessment again.
References and further reading

You can find references for all the books, articles, reports and websites mentioned in the text, at the end of each section. References are indicated in the text by a ‘superscript’ number (like this ¹). A list of further reading is also provided at the end of this programme.

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CPPE has adopted a quality assurance process called ‘programme guardians’. A programme guardian is a recognised expert in an area relevant to the content of a learning programme who will review the programme every six months. We will post any corrections, additions, deletions or further supporting materials that are needed as an update to the programme on the CPPE website. We recommend that you refer to these updates if you are using this (or any other) learning programme significantly after its initial publication date. A full list of programme guardians is available on our website. You can email your comments about this programme to them at: info@cppe.ac.uk

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Disclaimer

CPPE recognises that local interpretation of national guidance may differ from the examples used in this learning programme and you are advised to check with your own relevant local guidelines. You are also advised to use this programme with other established reference sources. If you are reading this programme significantly after the date of initial publication you should refer to current published evidence. CPPE does not accept responsibility for any errors or omissions.

Feedback

We hope you find this learning programme useful for your practice. Please help us to assess its value and effectiveness by completing the online feedback form available on our website. Visit: http://www,cppe.ac.uk/mycppe and then select my CPPE record from the menu and log in; scroll down to find the learning programme title, and click on the Tell us what you think icon. CPPE may email you a reminder to do this. You can also email us direct if you think your comments are urgent, using the email address: feedback@cppe.ac.uk
Welcome to the CPPE learning programme on substance use and misuse. We have developed this programme to increase your understanding of substance use and misuse and to provide you with the skills and knowledge to provide services to substance misusers in the pharmacy.

When you have completed the programme you should be able to:

- understand the concept of drug dependence and have an overview of commonly misused substances, including illegal drugs, volatile substances, performance-enhancing drugs, over-the-counter and prescription medicines
- outline the key government strategies and clinical guidelines developed to manage substance misuse in the UK
- understand the main areas of legislation related to substance misuse and apply that knowledge to your everyday practice
- describe the concept and practice of harm reduction and the role played by pharmacy, including a knowledge of safer injecting techniques
- understand the pharmacological and psychosocial treatment of substance use
- describe the services available to substance misusers from the pharmacy and understand how services are provided in your locality
- recognise the role of pharmacy within a multidisciplinary team managing substance misuse.

**CPPE factfile**

To complement this programme the *Substance use and misuse factfile* is an online, interactive PDF which you can complete yourself and add to at any time. This ensures that you can keep it up to date and relevant to your practice, as the prevalence of abuse of different drugs will vary throughout the country. You also have the facility to print it and use it as a reference document for you or your wider pharmacy team.

The study time will depend on you, but we estimate that the reading and activities for this programme will take a total of ten hours.

**Target audience**

This programme is aimed primarily at pharmacists and pharmacy technicians providing or preparing to provide NHS-funded services to substance misusers in the community pharmacy setting. It will also be of relevance to primary care pharmacists who are implementing a service. Pharmacists and pharmacy technicians working in hospital and prison environments will also find it useful, though it may not relate directly to their practice.

**Learning style adopted in this programme**

This programme contains enough information to give you a comprehensive overview of substance misuse, harm reduction, treatment and service provision. To further your understanding of the subject we suggest you do some further reading, in particular by visiting the recommended websites. We have included details of all the references we have used at the end of each section.
Learning objectives

CPPE links its learning programme to the Competency Development and Evaluation Group (CoDEG) General Level Framework competency clusters. Completing this programme will help to provide you with the evidence you need for the GLF competency clusters shown in the table below. For further information about CoDEG and the GLF visit: http://www.codeg.org

We have also linked the learning to the dimensions of the NHS Knowledge and Skills Framework (KSF). The dimensions relevant to this programme are shown in the table below.

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Working through this programme

We would advise you to work flexibly with the materials to suit your own style of learning. There is no right or wrong approach, but remember that the aim of your hard work is to enable you to feel confident about delivering pharmacy services for substance misusers.

We have designed this programme for self-study, but as you progress through the sections it will be essential for you to talk through many of the issues with your staff and colleagues.

**CPPE factfile**

The *Substance use and misuse factfile* is designed to help you extend your knowledge on commonly misused substances, but also to help you to build a helpful reference source which you can share with colleagues. You may find it easier to concentrate on a few of the key substances initially and then build the factfile up over time, rather than trying to complete the whole document in one go.

**Online resources**

Some of the references in this programme are to material which is only available online, and we assume that you have access to a computer connected to the internet. If you do not wish to retype all the web addresses into your browser you may find it helpful to download this programme from the CPPE website as a PDF document containing live web links. Log on to: [http://www.cppe.ac.uk](http://www.cppe.ac.uk)

Where we think it will be helpful we have provided the URL to take you directly to an article or specific part of a website. However, we are also aware that web links can change (eg, the Department of Health links) so in some cases we have provided the URL for the organisation’s home page only. If you have difficulty accessing any web links, please go to the organisation’s home page and use appropriate key words to search for the relevant item.

**Note on NICE guidance:** To find any of the NICE guidelines or technology appraisals mentioned in this programme visit the NICE website at: [http://www.nice.org.uk](http://www.nice.org.uk) On their home page, under ‘Search NICE guidance’, enter the relevant topic and click ‘Search’.

**Note on articles:** If you have difficulty locating an article on the internet, search via: [http://www.google.co.uk](http://www.google.co.uk) by typing in the title, author, date and name of the journal. It can also be helpful if you add in, at the end of the search criteria, the website where you think the information may be, eg, [dh.gov.uk](http://dh.gov.uk)

You may prefer to use the NHS Evidence website to search at: [http://www.evidence.nhs.uk/default.aspx](http://www.evidence.nhs.uk/default.aspx)
When devising this programme we paid special attention to how it would contribute both to your own professional development and to the overall improvement of NHS services. We have illustrated some of these benefits in the diagram below (you will find more detail as you progress through the programme).
Depressant
Any agent that suppresses, inhibits, or decreases some aspects of central nervous system (CNS) activity. The main classes of CNS depressants are the sedatives/hypnotics, opioids, and neuroleptics. Examples of depressant drugs are alcohol, barbiturates, anaesthetics, benzodiazepines, opiates and their synthetic analogues.¹

Hallucinogen
A chemical agent that induces alterations in perception, thinking, and feeling which resemble those of the functional psychoses without producing gross impairment of memory and orientation. Examples include LSD, MDMA, magic mushrooms.¹

Harmful use
A pattern of psychoactive substance use that is causing damage to health. The damage may be physical or mental.¹

Hazardous use
A pattern of substance use that increases the risk of harmful consequences for the user. Some would limit the consequences to physical and mental health (as in harmful use); some would also include social consequences. In contrast to harmful use, hazardous use refers to patterns of use that are of public health significance.¹

Problem use
The exact definition varies from source to source. Some limit the definition just to the use of heroin and crack cocaine while other definitions include all injecting drug use and/or amphetamine use.

Psychoactive drug or substance
A substance that, when ingested, affects mental processes, eg, cognition or affect. This term and its equivalent, psychotropic drug, are the most neutral and descriptive terms for the whole class of substances, licit and illicit, of interest to drug policy. ‘Psychoactive’ does not necessarily imply dependence-producing, and in common parlance, the term is often left unstated, as in ‘drug use’ or ‘substance abuse’.¹

Shared care
Substance misuse shared care is defined by the Department of Health as ‘the joint participation of specialists and GPs (and other agencies as appropriate) in the planned delivery of care for clients with a drug misuse problem’.²

Stimulants
In reference to the central nervous system, any agent that activates, enhances, or increases neural activity. Included are the amphetamines, cocaine, caffeine and nicotine.¹

### Objectives

On completion of this section you should be able to:

- understand the reasons for providing substance misuse services
- understand the concept of dependence
- describe the key legislation relevant to substance misuse
- outline the most commonly misused illegal substances
- be aware of how legal substances can be misused
- understand the importance of involving the whole pharmacy team when working with substance misusers.

### 1.1 Reflections on your practice

Before working your way through this programme, spend a little time reflecting on the care you currently provide for substance misusers.

#### Reflective questions

1. How many substance misusers regularly use your pharmacy?

2. What substances are they using?

3. What knowledge, skills, experience and resources do you have to help you deliver pharmacy services to them effectively?
4. What are the barriers to providing an effective service from your pharmacy? (Consider your pharmacy team as well as yourself and your establishment.)

5. What do you hope to learn in this programme to allow you to provide these services or improve on your current provision?

At the end of the programme you can re-visit these questions to reflect on whether your learning needs have been met and whether you can now provide a better service.

1.2 Why provide substance misuse services?

**Size of the problem in England**

Around one-third of the population of England has admitted to taking drugs at some point in their lives. This is in line with findings from the 2008/2009 British Crime Survey which show that 36.8 percent of 16 to 59-year-olds have used drugs in their lifetime, 10.1 percent used drugs in the last year (recent use) and 5.9 percent used drugs in the last month (current use). Cannabis was the most commonly used drug across a time period, followed by cocaine powder for recent and current use.

In 2009/2010 the number of users of heroin and crack cocaine (‘problem users’) in England was 320,000, i.e., just under one percent of the population aged 15-64 years. Of these just over 200,000 were in treatment, with 75 percent being treated with drugs for opiate use and the remainder undergoing psychosocial interventions for cocaine use. Around 24,000 under-18s also access support from drug services.

**Treatment is effective**

Of the 206,889 clients aged 18 and over in treatment in 2009/2010, 192,367 (93 percent) were in treatment for 12 weeks or more, or left treatment earlier than 12 weeks free of dependency.

Individuals in treatment are less likely to use drugs, commit crime to pay for drugs and to overdose. They are also reducing their risk of acquiring blood-borne infections as their injecting is reduced. Drug treatment has been shown to be very cost-effective. The Drug Treatment Outcomes Research Study (DTORS), published in 2010, found that drug treatment is effective in reducing the harmful behaviours associated with problem drug use, estimating that for every £1 invested in treating problem drug users, £2.50 is saved on crime and health costs.
1.3 Language

The use of appropriate terminology and language in relation to substance misuse is essential to prevent barriers between the pharmacy team and clients; it should always convey tolerance and respect. Inappropriate language can stereotype and marginalise individuals and many terms that were used in the past are no longer in common use, due to their negative connotations; examples include drug or substance abuse, drug addict and addiction.

Some of the most commonly used terms are included in the glossary at the beginning of this learning programme. They are taken from the World Health Organization (WHO) lexicon of alcohol and drug terms, available to view on the WHO website: http://www.who.int

There are several definitions of substance misuse, but the World Health Organization (WHO) defines substance misuse as:

*Use of a substance for a purpose not consistent with legal or medical guidelines, as in the non-medical use of prescription medications.*

However, the World Health Organization also recognises that even ‘misuse’ can have negative connotations for some, so they use ‘harmful use’ as an alternative.

Throughout this programme we will use the term ‘substance misuse’ to refer to the use of any legal or illegal psychoactive substance/drug and the user will be referred to as the ‘substance misuser’. In addition, in line with current practice, when referring to substance users in treatment, we will use the term ‘client’ rather than ‘patient’.

1.4 Drug dependence

The World Health Organization (WHO) lexicon of alcohol and drug terms defines drug dependence as:

*a need for repeated doses of the drug to feel good or to avoid feeling bad.*

There are three core features to drug dependence: psychological dependence; physical dependence; and tolerance.

- **Psychological dependence**
  
  This is described as a compulsion or craving requiring periodic or continuous administration of a substance to produce pleasure, or to alleviate anxiety. There is an overriding compulsion to take the substance, even in the certain knowledge that it is harmful and regardless of the consequences that result from obtaining it. Craving is a major component of this form of dependence and relates to the consistent preoccupation with the substance. This can result in compulsive drug-seeking behaviour, ie, searching for the substance legally or illegally.

- **Physical dependence**
  
  This is a neuro-adaptive state, manifested by intense physical disturbances when the drug is withdrawn. Not all substances cause this type of dependence and, of the substances that do, not all are substances of abuse. The body becomes accustomed to the substance and sudden withdrawal results in a variety of signs and symptoms, which are known as ‘withdrawal syndrome’ or ‘abstinence syndrome’. Examples of substances causing this are opiates, benzodiazepines, alcohol and caffeine.
SECTION 1

Tolerance
This is defined by WHO as ‘a decrease in response to a drug dose that occurs with continued use. Increased doses or alcohol or other drugs are required to achieve the effects originally produced by lower doses’. It is not only substances of misuse that result in tolerance and this state may not occur at the same time as the other effects of a substance. Tolerance may be reduced if there is an interruption in use, for example, as a result of imprisonment. In this circumstance intoxication and overdose can result if the same amounts were administered as previously.

The mechanisms of tolerance include:

- metabolic or pharmacokinetic tolerance – occurring when, by increasing the rate of metabolism of the substance, the body may be able to eliminate the substance more readily, for example, barbiturates induce extra enzymes, which metabolise barbiturates themselves
- functional, neuroadaptive, or pharmacodynamic tolerance – defined as a decrease in sensitivity of the central nervous system to the substance, due to changes in specific receptors or altered responses to neurotransmitters
- behavioural tolerance – a change in the effect of a drug as a result of learning or alteration of environmental constraints; for example, an alcoholic can learn to recognise the motor impairment associated with intoxication and how best to overcome it and disguise it by altering their behaviour, and maybe walking more slowly
- acute tolerance – rapid, temporary accommodation to the effect of a substance following a single dose
- reverse tolerance, also known as sensitisation – referring to a condition in which the response to a substance increases with repeated use.

Withdrawal syndrome
The characteristics of this syndrome depend on the substance used, and the signs and symptoms are crudely described as the opposite of the effects of the substance. The symptoms are generally relieved by administration of the substance causing the withdrawal syndrome, or by a similar substance; for example, the opioid withdrawal syndrome can only be relieved by administration of an opioid substance or a benzodiazepine.

1.5 The law relating to substance misuse

Misuse of Drugs Act 1971
The Misuse of Drugs Act 19717 controls the export, import, production, supply and possession of dangerous or otherwise harmful drugs. The drugs subject to control are listed within the Act and the term ‘controlled drug’ means any substance or product so listed. There are three classes of controlled drug listed within the act, largely defined on the basis of decreasing order of harmfulness: Class A, Class B and Class C. This division is solely for the purposes of determining penalties for offences under the act, and as such has little direct
relevance to pharmacy. However, it is useful to know which illegal substance falls into which class as clients are likely to use this language.

Offences under the Misuse of Drugs Act 1971 can include:

- possession of a controlled drug (CD)
- possession with intent to supply another person
- production, cultivation or manufacture of a controlled drug
- supplying another person with a controlled drug
- offering to supply another person with a controlled drug
- import or export of a controlled drug
- allowing premises you occupy or manage to be used for the consumption of certain controlled drugs (smoking of cannabis or opium but not use of other controlled drugs) or supply or production of any controlled drug.

**TABLE 1 Penalties under the Misuse of Drugs Act 1971**

<table>
<thead>
<tr>
<th>Class</th>
<th>Possession</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>Heroin, 4-MDMA (ecstasy), cocaine, crack, magic mushrooms, methadone, LSD, amphetamines (if prepared for injection)</td>
<td>Up to seven years in prison, or an unlimited fine, or both</td>
</tr>
<tr>
<td>Class B</td>
<td>Amphetamines, cannabis, methylphenidate, codeine</td>
<td>Up to five years in prison, or an unlimited fine, or both</td>
</tr>
<tr>
<td>Class C</td>
<td>Benzodiazepines, anabolic steroids, Gamma hydroxybutyrate (GHB), ketamine, buprenorphine</td>
<td>Up to two years in prison, or an unlimited fine, or both</td>
</tr>
</tbody>
</table>

**Exemptions to the Misuse of Drugs Act 1971**

The law is complex as some substances of misuse are covered by other laws, or are not covered at all, or may be treated in an exceptional way under the Misuse of Drugs Act 1971.

The khat bush (the main form in which khat is sold) is not covered under the Misuse of Drugs Act 1971, so possession or supply is not an offence.

Poppers (amyl or butyl nitrite) are not covered by the Misuse of Drugs Act 1971 and are not illegal to possess or buy. They are often sold in joke and sex shops. Though not fully tested in court, the Medicines and Healthcare products Regulatory Agency (MHRA) has stated that poppers are regarded by them as a medicine and so fall under the Medicines Act 1968, allowing only licensed outlets, such as chemists, to sell the drug.

Magic mushrooms or any fungus containing psilocin or an ester of psilocin is classified under the Misuse of Drugs Act 1971 as a Class A drug; however, a person will not be committing an offence of possession of magic mushrooms if the mushrooms are growing naturally and uncultivated in their garden.
Exercise 1
Misuse of Drugs Act 1971

Anthony decides to buy some ecstasy tablets for six friends without telling them, but he borrows money from them to do so on another pretext. He returns half-an-hour later. Consider the three possible scenarios below and then answer the question that follows.

1. Anthony returns with some tablets of ecstasy which he distributes.
2. Anthony returns without any tablets as he couldn’t get any, despite approaching several people. He returns his friends’ money.
3. Anthony returns with some tablets which he knows to be just saccharin tablets, which he distributes, saying that they are ecstasy.

Has Anthony broken the law relating to the Misuse of Drugs Act 1971 in:
Circle the correct answer

Scenario 1 yes no
Scenario 2 yes no
Scenario 3 yes no

If you circled ‘yes’ in any case(s) which drugs offence(s) has he committed?

Turn to the end of the section for suggested answers.
The Misuse of Drugs Regulations 2001

The Misuse of Drugs Regulations 2001, as amended, allow the use of controlled drugs in medicine. This classification is of practical importance to pharmacists and practitioners. The controlled drugs are split into five schedules, according to the level of controls.

Schedule 1 (CD Lic): drugs include coca leaf, ecstasy, LSD, raw opium, for which there is no recognised medicinal use. These drugs can only be supplied, possessed or administered in exceptional circumstances under a special Home Office licence, usually only for research purposes.

Schedule 2 (CD): drugs include some which are used in clinical medicine, but have a high dependence liability, eg, amphetamines, cocaine, dihydrocodeine, dextromoramide, dipipanone, fentanyl, secobarbital, glutethimide, diamorphine (heroin), methadone, morphine, opium in medicinal form, and pethidine.

Schedule 3 (CD No Register): drugs include barbiturates (except secobarbital), buprenorphine (Subutex and Temgesic), diethylpropion, flunitrazepam, meprobamate, midazolam and temazepam.

Schedule 4 drugs are divided into two parts. Part I (CD Benz) contains most benzodiazepines and other substances and Part II (CD Anab) comprises a number of anabolic and androgenic steroids, in addition to polypeptide hormones, such as somatotropin (growth hormone).

Schedule 5 (CD Inv) drugs are preparations which contain drugs listed in Schedules 2 or 3, but in such small quantities that they are harmless and pose minimal risk of misuse.

Exercise 2

Spend some time reviewing your knowledge of each schedule, by reading the controlled drugs section of the current edition of Medicines, Ethics and Practice. All sections are available to download from the Royal Pharmaceutical Society website at: http://www.rpharms.com/law-and-ethics/medicines-ethics-and-practice-guide.asp

We recommend that you regularly review the relevant journals, information resources and websites to ensure you are practising within the most up-to-date regulations, as these can change. As an example, legislation and regulations regarding controlled drugs changed as a result of the Shipman enquiries.
**Case study 1**

Exam nerves

Samina is a young local woman who has been using your pharmacy for a number of years. She gets chatting to you about her impending start at university. While talking, Samina reveals that before collecting her ‘A’ level results she was so ‘nervous and jittery’ that her aunt gave her some of her diazepam tablets (you also know the aunt who picks up her diazepam prescription from you). Samina is a little shamefaced about this and asks you if either she or her aunt broke the law.

What do you say? Would the legal situation be different if the drug in question had been temazepam instead of diazepam?

*Turn to the end of the section for suggested answers.*

**Case study 2**

Altered prescription

It’s a quiet Thursday afternoon in your pharmacy. The local surgeries won’t be open for an hour so you are enjoying a coffee with the staff. A young woman comes in with a prescription which she hands to the assistant who in turn hands it to you. The prescription is from a doctor not unknown to you who has a practice two or three miles away; it is for diazepam and temazepam tablets, a request that is unfortunately all too common of late. While your dispensing assistant is counting the diazepam tablets, you begin to produce the labels. Your attention is drawn to the quantity for the temazepam; it looks like 20 but has definitely been changed from 10. Unfortunately, the quantity has not been written in words. It could be that the doctor made the change and didn’t initial the alteration, or it could be that someone else has done it. The ink certainly looks the same but it’s impossible to be sure.
Part 1
Think about the three possible ways of dealing with this situation and their consequences and note them below.

---

Part 2
You decide to speak quietly to the young woman. You tell her that you are a little unsure about the prescription and how many tablets the doctor wanted her to have. She seems a little uncomfortable and says that she can neither wait nor come back as she is busy for the rest of the day. With more confidence, she says either wants the prescription to be dispensed now or she’ll take it to another pharmacy where she says ‘they will do it with no questions asked’.

What should you do now?

Turn to the end of the section for suggested answers.
1.6 Commonly misused substances

People use a wide range of psychoactive substances, which can have a variety of effects. Some of these substances may be legal, others not and the law does not always reflect their harmfulness.

A paper published in the *Lancet* in 2010,* challenged current drugs classifications by looking at 20 of the most commonly used drugs and asking a wide range of experts to rank them on 16 criteria, nine concerning harm caused to the individual and seven looking at harm to others; from these rankings an overall rating of harm was produced.

**Exercise 3**

The substances included in the research are listed below. Rank them from 1-20 both in terms of harm caused to the individual – and in terms of harm to others – where 1 is the most harmful and 20 the least. When you have completed your rankings, decide which three substances you think are the most harmful overall.

<table>
<thead>
<tr>
<th>Harm to self</th>
<th>Harm to others</th>
<th>Harm to self</th>
<th>Harm to others</th>
<th>Harm to self</th>
<th>Harm to others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td></td>
<td>Cocaine</td>
<td></td>
<td>Crack cocaine</td>
<td></td>
</tr>
<tr>
<td>Amphetamine</td>
<td></td>
<td>Ecstasy</td>
<td></td>
<td>GHB</td>
<td></td>
</tr>
<tr>
<td>Anabolic steroids</td>
<td></td>
<td>Methylamphetamine*</td>
<td></td>
<td>Methadone</td>
<td></td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td></td>
<td>Mushrooms</td>
<td></td>
<td>Tobacco</td>
<td></td>
</tr>
<tr>
<td>Buprenorphine</td>
<td></td>
<td>Heroin</td>
<td></td>
<td>Ketamine</td>
<td></td>
</tr>
<tr>
<td>Butane</td>
<td></td>
<td>Khat</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Most harmful substances overall

*Also known as Metamphetamine and Metamfetamine

Turn to the end of the section to compare your answers with the findings of the research (you can read the full article online at: [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)61462-6/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)61462-6/abstract)).
1.7 Use and misuse of illegal substances

Cannabis

Cannabis is the most widely used illegal drug in the UK, and the one most likely to have been tried by young people. It is currently a Class B drug, having been reclassified in January 2009 from Class C.

There is no conclusive evidence that moderate, long-term use of cannabis causes lasting damage to physical or mental health. However, it is probable that frequent inhalation of cannabis smoke over a period of years will contribute towards bronchitis and other respiratory disorders and possible cancers of the lung and parts of the digestive system. Risks are greater if cannabis is smoked with tobacco. It is not clear which of the two is the most damaging, although cannabis smokers tend to inhale more deeply, without using a filter and cannabis contains higher concentrations of carcinogenic tars than tobacco.

The development of tolerance and dependence to cannabis is a controversial issue and has not been fully established. Regular users who stop smoking cannabis do not experience a withdrawal syndrome as opioid users do. However, when used in high quantities, there have been reports of abstinence syndrome which indicates physical dependence. This has been characterised as decreased appetite, insomnia, weight loss and irritability. Chronic users of cannabis can experience psychological dependence.

Gateway effect/escalation hypothesis

The escalation theory suggests that using drugs such as cannabis leads to consumption of more harmful drugs, i.e., those with a greater dependence liability. It has been shown that most heroin users have used cannabis previously; however, only a small proportion of cannabis users try opiates, and so there is decreasing support for this theory.

Cocaine

Cocaine is now the second most commonly used drug in the UK and its use is becoming an increasing problem. Cocaine is commonly available in the UK as either cocaine hydrochloride powder (coke) or as ‘crack’ cocaine rocks. Crack is the base form of cocaine, made by dissolving cocaine powder in water and heating with a chemical reagent. Crack cocaine can be smoked, and the effects are immediate, peaking after about two minutes and lasting for only about ten minutes. Snorted cocaine powder is absorbed more slowly, so there is a slower time to peak and effects last about 20-30 minutes; hence, crack cocaine tends to be much stronger and more addictive than snorted cocaine powder. All forms of cocaine can be prepared for injection although the powder is easiest. With the intravenous route, a ‘rush’ is reported to occur within one to two minutes, but the effects only last for a few minutes so users may give themselves several repeated intravenous doses. Some cocaine and crack cocaine users will also inject a mixture of heroin and cocaine (known as ‘snowballing’ or ‘speedballing’).

Cocaine is a strong central nervous system (CNS) stimulant which also has a powerful euphoric effect and creates a decreased requirement for sleep or food. Common physical effects include dry mouth, sweating, loss of appetite, dilated pupils, raised blood pressure and increased heart and pulse rate. At higher dose
levels users may feel anxious and/or panicky. It also has anaesthetic and vasoconstrictive effects which contribute to the nose disintegration sometimes associated with snorting of the powder.

It is unclear whether tolerance to cocaine occurs. Symptoms of psychological withdrawal do occur as a result of long-term use at high doses. These include: depressed mood, lethargy, irritability, headache, fatigue, muscle pain, disturbances in sleeping and eating. When these are severe, known as ‘crash after a binge’ dysphoria, high levels of craving and extreme emotional and physical distress result. There may also be symptoms such as diarrhoea, vomiting, tremor, insomnia, anorexia, agitation, paranoid and suicidal thoughts. There is some debate as to whether the ‘crash’ is actually a cocaine abstinence syndrome, although it is important to note that, unlike abstinence syndromes associated with opiates and alcohol, cocaine does not produce major physiological disturbance. When smoking crack cocaine, the contrast between the rush and the crash is so intense that there is a tendency to use more of the drug in a short time period.

Cocaine psychosis/toxicity

Cocaine and other stimulants can cause a dose-dependent psychosis, similar to paranoid schizophrenia. This is characterised by auditory and visual hallucinations, persecutory delusions and, more rarely, infestation delusions and tactile hallucinations (described as insects crawling under the skin) resulting in continued scratching and picking of the skin. These symptoms are similar to those caused by other stimulants, such as amphetamines, but are more short-lived. Deaths can occur due to cardiovascular events, myocardial infarction and stroke.

Heroin

Heroin is a contributory factor in most acute drug-related deaths in the UK, usually in combination with other drugs. It is a central nervous system (CNS) depressant, supplied as a powder and is usually injected or smoked on foil (chased). An injection of heroin results in an euphoric effect or ‘rush’ which is a rapid feeling of intense pleasure and includes a state of mental detachment and extreme well-being. This is followed by relaxation and a warm feeling, due to peripheral vasodilation.

When heroin is smoked, the user places the powder on some foil, heats it from beneath and then inhales the fumes through a tube (foil/straw/pen body). When heated the heroin turns black and wriggles like a snake or dragon, and the user ‘chases’ the heroin with the tube, hence the term ‘chasing the dragon’ or ‘chasing’. The effects are milder but longer lasting than injecting.

1.8 Misuse of legal substances

Alcohol and tobacco

Alcohol and tobacco are the most used psychotropic substances in the UK, placing a huge pressure on the health service. Smoking remains the main cause of preventable disease and premature death in the UK. About 8.5 million people still smoke in England today, and over 81,000 deaths a year are due to smoking in England alone. Alcohol is the most socially acceptable drug liable to misuse in
the Western world, and over 90 percent of British adults drink alcohol. However, it produces toxic and pharmacological effects, both on the body physically and mentally and is particularly harmful when used alongside opiates, cocaine and benzodiazepines.

Pharmacy services to help with smoking cessation are well established and alcohol brief intervention services are increasing. Both topics are outside the remit of this programme, but are dealt with in other CPPE programmes. For more information take a look at the CPPE website (http://www.cppe.ac.uk/portfolio) and also look at the suggestions for Further reading at the end of this programme.

Legal highs

‘Legal highs’ are substances which produce similar effects to illegal substances, but are structurally different enough to avoid classification as illegal substances under the Misuse of Drugs Act 1971. However, they are considered illegal to sell, supply or advertise for ‘human consumption’. To avoid this, sellers refer to them as ‘research chemicals’, ‘plant food’, ‘bath crystals’ or ‘pond cleaner’ to circumnavigate the law.

There has been very little research into the short, and long-term risks of the various ‘legal highs’. However, it is becoming increasingly clear that many are far from harmless and some may have similar health risks to drugs such as cocaine, ecstasy and speed, risks that can include coma, seizures, and death.

It is also likely that in many cases, drugs sold as legal highs may contain one or more substances that are illegal to possess, putting the user in great danger as they have no idea what they are taking.

The legal highs gammabutyrolactone (GBL) and synthetic cannabinoids were banned in 2009, while naphyrone and mephedrone followed in 2010; however, the ease of both the manufacture of related compounds and the access to information online means that new legal highs are constantly being developed. In August 2010, to combat this growth in new legal highs, the Government announced proposals to introduce a 12 month-temporary ban on new ‘legal highs’, while the health issues are considered by the Advisory Council on the Misuse of Drugs (ACMD) and a decision made as to whether the substance should be banned permanently. Under proposed laws, as many legal highs are brought in from abroad, the police will be able to confiscate suspected substances and the UK Border Agency will be able to seize shipments of the drugs. Possession of a substance under the temporary ban would not be a criminal offence, but those found guilty of supply will face a prison term of up to 14 years and an unlimited fine.

A legal highs awareness campaign was launched in 2010 using the FRANK website and the ‘Crazy Chemist’ posters, warning people not to become ‘lab rats’ (see: http://www.talktofrank.com).
Volatile substances

Volatile substances produce vapours or are gases at room temperature; they are inhaled orally or nasally in order to produce euphoric or intoxicating effects. The compounds which may be used can be broadly categorised as shown below:

- volatile gases/solvents, eg, lighter fuels, spray paint
- aerosols, eg, hairsprays, pressurised products
- anaesthetic gases, eg, nitrous oxide, ether
- nitrites, eg, amyl nitrite and butyl nitrite.

The inhaled solvents are rapidly absorbed through the lungs and then distributed to the brain and other organs. The effects, therefore, appear within minutes of inhalation. Together with feelings of euphoria, slurred speech and ataxia, the initial effects of solvents are akin to those produced by alcohol. The user might also experience hallucinations and a general feeling of confidence. The most common short-term after-effect is no more than a headache.

Intoxication effects are similar to alcohol intoxication. Other effects include tinnitus, sneezing, flushing and coughing. Accidental death or injury can occur, particularly if youngsters are sniffing in an unsafe environment, such as on a canal or river bank, on a roof or near a busy road or train line. Chronic use is associated with insomnia, decreased ability to concentrate and nightmares. Damage can occur to the liver, kidneys and neurological adverse effects can result.

Tolerance can develop after chronic use of volatile substances; however this can be reversed rapidly after cessation of use. Volatile substance abuse appears to have low dependence and withdrawal potential; however, there are reports of possible withdrawal effects such as tremors, sweating, nausea, delusions and headaches.

Volatile substances – the law

Intoxicating Substances Supply Act 1985

This act prohibits the supply to people under 18 years old of substances which cause intoxication if inhaled, when the supplier knows or has reason to believe, they will be used ‘to achieve intoxication’. The law is directed at shopkeepers, to prevent the sale of solvents or volatile substances to young people who may misuse them by sniffing/inhalation.

1.9 Misuse of over-the-counter medicines

The misuse of over-the-counter medicines has been recognised by health professionals for many years; in particular, involuntary dependence on codeine-containing products. However, the exact size of the problem is unknown as much of the evidence is anecdotal. An inquiry into the scale of misuse of over-the-counter medicines was conducted in 2008 by the All Party Parliamentary Group on Drug Misuse (APPGDM). Although it produced no definitive data on exact numbers affected, it showed that more women than men are reporting misuse of these products. Some common factors underlying misuse include:
- inadequate pain relief from the GP
- mental health issues
- history of other substance misuse
- not wanting to bother the GP
- increased access to over-the-counter medicines via the internet.

Changes recommended by the Medicines and Healthcare products Regulatory Agency (MHRA) regarding the sale of over-the-counter codeine and dihydrocodeine came into force in March 2010. They limit the pack size of these products to 32 and require that both the front of the box and the patient information leaflet state that these substances can cause addiction and should not be used for more than three consecutive days. These changes should make the public more aware of the issues and encourage more people to come forward for treatment.

What is clear is that this population of substance misusers is distinct from the population of illegal substance misusers, so will require different routes of treatment. For most, drug treatment clinics will not be appropriate, as firstly they are unlikely to want to attend alongside other clients and secondly, most clinics are not geared up to provide the type of support they may need.

**Practice point**

Where could you signpost customers to if you were aware that they were misusing over-the-counter codeine products? Do you have a specialist clinic locally?

It is in this area that the pharmacist and their team can play a major role, by identifying the problem, supporting the individuals and signposting them to treatment via their GP or other suitable routes. However, in many situations the pharmacy staff do not feel confident to have this conversation so they just refuse the sale.

Examples of other commonly misused over-the-counter medicines are:

- antihistamines for their sedative action
- laxatives to alter body image
- dextromethorphan as a sedative and hallucinogen
- sympathomimetics as stimulants.
**Ephedrine and pseudoephedrine**

Sales of ephedrine and pseudoephedrine are restricted to prevent individuals obtaining large amounts as these two compounds can be used in the illegal manufacture of methamphetamine (crystal meth). The Royal Pharmaceutical Society has issued guidance: *Pseudoephedrine and ephedrine: look, listen and report your suspicions*, (available at: [http://www.rpharms.com/support-tools/pseudoephedrine-and-ephedrine.asp](http://www.rpharms.com/support-tools/pseudoephedrine-and-ephedrine.asp)).

In summary the guidance says:

- it is unlawful to supply a product or combination of products which contain more than 720 mg of pseudoephedrine or 180 mg of ephedrine in a single transaction, without a prescription
- it is unlawful to sell or supply any pseudoephedrine product together with an ephedrine product without a prescription
- sale or supplies should either be made personally by the pharmacist or by pharmacy staff who have been trained on pseudoephedrine and ephedrine issues, and know when to refer to the pharmacist where necessary
- even when a request is made for a lawful quantity, the sale or supply can be refused where there are reasonable grounds for suspecting misuse
- be vigilant for signs of misuse.\(^\text{19}\)

There are various ways that community pharmacists can help to minimise misuse of over-the-counter medicines. These include:

- educating counter staff about products liable to be abused
- referring individuals to the pharmacist if misuse is suspected
- placing certain products out of sight
- refusing to sell the products, especially if large amounts are requested
- developing standard operating procedures and policies.

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**Reflective questions**

Think back to the last time you spoke with a customer who you suspected was misusing an over-the-counter product.

Did you initiate a conversation about it and if not, why not?

What further training or support do you require to help you to be able to start those discussions?
1.10 Misuse of prescription medicines\textsuperscript{14,15}

As with over-the-counter medicines, misuse of prescription-only medicines (POMs) may be either deliberate or unintentional. The pharmacist has a professional responsibility to minimise the risks associated with inappropriate use of POMs, and can provide clinical advice at the point of supply of the drug.

We have provided details below about some of the POMs most likely to be misused.

**Antidepressants**

Antidepressants cause the release of CNS transmitters, such as dopamine and serotonin, and are therefore liable for abuse. Fluoxetine is reported to be used on the street to help alleviate the acute depression and hangover effect of ecstasy intoxication.

**Opioids**

(for example, morphine, diamorphine, codeine, dihydrocodeine, oxycodone, pentazocine, tramadol, fentanyl)

The overuse of prescription analgesics is a serious problem and the cause may be iatrogenic. Preparations such as dihydrocodeine exert central effects that are not only analgesic but also euphoric, and morphine is more potent still.

Dependence and tolerance are not considered to be a problem when such drugs are prescribed for the relief of terminal pain.

**Nalbuphine (Nubain)**

Nalbuphine is a strong opioid analgesic; although discontinued in the UK, it is still available on the black market. Misuse is particularly among sportsmen, sportswomen and bodybuilders, who may take it for two reasons: firstly, in the mistaken belief that the drug is an anti-catabolic and secondly, to allow them to train through the pain barrier.

**Sedatives**

(for example, barbiturates, benzodiazepines and Z-drugs)

Benzodiazepines have almost completely replaced barbiturates as sedatives and hypnotics. Their side-effects are less severe and an overdose is less likely to be fatal, except when mixed with alcohol or other CNS depressants. They are, however, still associated with dependence. There are up to 200,000 illicit users of benzodiazepines in the UK and around 90 percent of problem drug users have used benzodiazepines to alleviate the come-down effects of illegal drugs. In other cases, the drugs are used to produce a pleasant, detached sensation. Exceeding the dose prescribed may lead to tolerance and deliberate dependence but, even at the usual doses, clients may be unable to stop taking the medication without withdrawal symptoms. A lack of understanding of the problems that could be encountered meant that prescribing of benzodiazepines was sometimes less than rational in the past. The iatrogenic component of the misuse is being eliminated, but deliberate misuse remains.
Other prescription-only medicines that may be misused include:

- **sildenafil** – used on the clubbing scene; this is particularly dangerous when combined with cocaine, due to the cardiovascular risks
- **antimuscarinic drugs**, such as procyclidine and trihexyphenidyl
- **anaesthetics**, such as ketamine and nitrous oxide
- **methylphenidate**
- **salbutamol** – anecdotal evidence of use by cannabis smokers.

**Anabolic steroids**

Anabolic steroids are classified as Schedule 4 controlled drugs, attracting Class C penalties. They are one of a group of misused drugs, often referred to as PIEDs (performance and image-enhancing drugs) and are misused by sportsmen to increase skeletal muscle mass and physical strength, in addition to decreasing body fat. They also cause decreased fatigue, aggression, increased stamina and mild euphoria, all of which allow users to endure longer and more difficult training sessions.

**Side-effects of use are:** depression, mania, paranoia, irritability, aggression, muscle dysmorphic in male bodybuilders, acne, changes in sex drive and stunted growth. In addition, the long-term side-effects of steroid use includes hypertension, ischaemic heart disease, liver cancer and renal problems.

Tolerance and physical dependence do not occur as a result of use; however, users fear the physical effects resulting after cessation of the drugs.

The drugs are mostly administered intramuscularly; however, they can be taken orally (but this is less common due to the effect of first-pass metabolism).

Many users access pharmacy needle and syringe programmes for clean injecting supplies and you should be aware of their needs (see Section 3 for more information). By injecting these drugs they are at risk of infection from blood-borne viruses and should be offered appropriate harm reduction advice.

Anabolic steroids are normally ‘cycled’, ie, used for up to 12 weeks in combination with periods of very intense physical training (‘on cycle’) and then stopped for the same length of time, then started again. During the cycle a number of other drugs are used, either to enhance the effects of the steroids or to counteract their negative effects. Anabolic steroid ‘cycling’ is said by users to avoid the long-term negative effects, while maximising the positive effects, although there is no scientific evidence for this. In addition, anabolic steroids are often stacked (taken together), sometimes in quite complicated regimes over the cycle period. ‘Stacking’ allows for lower doses of each drug, again to minimise the side-effects. However, it does introduce the possibility of drug interactions; this problem is sometimes compounded by the use of counterfeits. The dosages used vary quite considerably and are often well in excess of the recommended medical doses. During cycles, the amount of drug taken is gradually increased to a maximum (known as ‘pyramiding’) and then gradually reduced (or tapered) towards the end of the cycle. If a drug becomes ineffective over time (‘plateauing’), a different drug is used.
Drugs used in conjunction with anabolic steroids – with reasons for their use - include:

- insulin – to promote muscle growth (concern due to risk of hypoglycaemia)
- hypnotics – to counteract insomnia
- human growth hormone (somatotropin) – to promote muscle growth and fat loss and strengthen tendons (usage is now as common as steroids)
- oestrogen antagonists (eg, tamoxifen) – taken by male body builders to counteract the development of gynaecomastia
- captopril – to reduce body fat and to become more sensitive to insulin, in addition to its diuretic effect
- diuretics – to counteract fluid retention and enhance muscle definition
- antibiotics and retinoids – to counteract acne-inducing side-effects
- human chorionic gonadotrophin (HCG) – male users use HCG to restore spermatogenesis, which is effectively suppressed by testosterone
- erythropoietin (EPO) – used to raise the capacity of the blood to carry oxygen, enhancing performance
- nalbuphine (Nubain) – used to manage pain from training injuries and overexertion
- stimulants (eg, amphetamines and ephedrine) taken prior to a workout to allow longer training and to help ‘burn fat’. (This use is based on the fact that sympathomimetics cause release of fatty acids from adipose tissue.)

For more information on anabolic steroids, see the Advisory Council on the Misuse of Drugs, Consideration of the anabolic steroids report, published in 2010 and available at: http://www.homeoffice.gov.uk

**Practice point**

Do you offer specific needle and syringe services to steroid users?
Are you aware of local steroid use clinics to which to refer individuals?
1.11 General guidance on working with substance misusers

Good communication between pharmacist, client, prescriber and the rest of the pharmacy team is crucial to the effective provision of pharmacy services to substance misusers. It is important that all members of the pharmacy team understand why these services are so important and that they are appropriately informed to be able to support service provision. It is also important that clients have clear and consistent boundaries and are treated equally and with respect by all staff members within the pharmacy, regardless of whether they are a long-term customer or new to your pharmacy.

The General Pharmaceutical Council (GPhC) Standards of conduct, ethics and performance require that pharmacists and pharmacy technicians:

‘Recognise diversity and respect people’s cultural differences and their right to hold their personal values and beliefs

Treat people politely and considerately

Do not unfairly discriminate against people. Make sure your views about a person’s lifestyle, religion or belief, race, gender reassignment, identity, sex and sexual orientation, age, disability, marital status or any other factors, do not affect how you provide your professional services.’

Confidentiality

When working with substance misusers, as with any other population, pharmacists and pharmacy technicians must abide by the GPhC Standards of conduct, ethics and performance with regards to confidentiality. In meeting the code of ethics principle: ‘Show respect for others’ you are expected to:

Respect and protect people’s dignity and privacy.

Take all reasonable steps to prevent accidental disclosure or unauthorised access to confidential information.

Never disclose confidential information without consent unless required to do so by the law or in exceptional circumstances.

This may be particularly relevant for supervised consumption where inadvertent breaches may occur when a client is observed by another customer.
Exercise 4

What situations would you consider to be ‘exceptional circumstances’ which would allow you to disclose confidential information about an individual without their consent?

*Turn to the end of the section for suggested answers.*

**General principles of confidentiality**

- All pharmacy staff are expected to respect and protect confidentiality, which includes any information relating to an individual that may be acquired in the course of their professional activities. Confidential information includes personal details and medication, both prescribed and non-prescribed.

- Pharmacists must ensure that consent is obtained from an individual if disclosing any information about that individual, except in exceptional circumstances.

- Within the pharmacy, access to confidential information must be restricted and only made available to those who require it to carry out their role, who have in turn agreed to abide by confidentiality rules.

- The prescribing practices of individual prescribers must not be disclosed, unless written informed consent is obtained or if information is required within the NHS (or from another healthcare provider). Where there are significant and immediate concerns for the client’s or public well-being, the pharmacist has the right to disclose information.

- Systems must be in place to control access to confidential information to minimise the risks of unauthorised access to pharmacy computer and manual systems.
Pharmacists must also ensure adherence to data protection legislation for data collection and use.

Storage, transmission, receipt or disposal of confidential information must be protected effectively against improper disclosure.

Substance misusers are treated under shared care arrangements involving a number of different healthcare professionals. Under these arrangements it is vital that all those involved share information when necessary. Pharmacists can give ‘informed consent’ to disclose information to the prescriber if they consider it is in the best interests of the client’s health. Client agreements should contain information about confidentiality and this should be explained fully at the start of treatment. (For more information on shared care see Section 2, page 35 and Section 5.)

The provision of needle and syringe programmes and supervised consumption are two different services and must be treated as such (see Section 5 for further information about providing services). Pharmacists must ensure that information about who is accessing each service remains confidential (see Section 2 for further information about confidentiality).

### Confidentiality – the law

The Data Protection Act 1998, which came into force on 1 March 2000, regulates the processing of personal data within the UK. It covers the records of living patients and both computerised and manual records are regulated by this act. 21

### Involving the wider pharmacy team

All staff in the pharmacy will come into contact with substance users and misusers. It is important that each member of the pharmacy team is aware of the potential for substance misuse so that they can identify people who may need support. There may be a circumstance, for example, where someone is misusing over-the-counter medicines and a member of the pharmacy team may be the only person who has contact with them. All team members need to be aware of the importance of being non-judgmental and maintaining privacy and confidentiality.

A 2010 report by the UK Drug Policy Commission stated that:

‘The attitudes of pharmacy staff appear to be a crucial factor in the extent to which users feel stigmatised. There is some evidence of a self-fulfilling prophecy, in that distrustful and unfriendly treatment from staff may provoke worse behaviour among users. The need for effective training of pharmacy staff is clearly a high priority.’ 22

Many substance misusers do feel stigmatised in their day-to-day life and if they experience it in a pharmacy setting they are unlikely to want to engage with the treatment and harm reduction programmes. Your pharmacy will be much more accessible to substance misusers if the initial contact they receive is from a welcoming member of the team. If there is any anxiety or hostility from members of the team clients will sense this and react accordingly.

Many of the thoughts and opinions that your team may have about substance misusers will be based on their own personal experience. They may have had no contact with substance misusers and be basing their opinions on what they see in...
the media, or they may have had a bad experience and be fearful or worried about interacting with these clients. Many of these fears are centred around the perceived likely behaviour of substance misusers within pharmacies and the possible effects of such behaviours on other customers and the trade of the pharmacy. Specific concerns are usually centred around the increased possibility of aggressive behaviour, violence and shoplifting. If your pharmacy is providing a service to injecting drug users then, in the majority of cases, most general pharmacy customers are unlikely to be aware of the service.

Evidence also suggests that although problematic incidents occasionally do occur, fear of such problems tends to be greater among staff in pharmacies that do not provide these services, than those who do; in fact, positive attitudes were associated with providing a service. A 2009 study into the attitudes of pharmacy staff towards pharmacy-based services for drug misusers showed that those who had undertaken training and worked in a pharmacy providing services showed significantly more positive attitudes when compared with people providing services without training. However, the study also indicated that three-quarters of those interviewed had not had any training in this area. This highlights the need for team members to be trained effectively, and then for them to have the opportunity to be involved in service provision for substance misusers.

You can help to allay fears and encourage your staff to play an active role in providing services to clients by training them in the basics of harm reduction, as well as the importance of confidentiality.

Practice point

Spend some time talking to your team about their thoughts on substance misusers. Challenge any preconceptions you or they might have and create an action plan for how you are going to extend the skills of your team to enable them to get involved in the provision of pharmacy services.
Summary

Treatment of substance misuse is effective and has a considerable cost benefit; for every £1 spent, £2.50 is saved in health and crime costs. It also has health and social benefits for the individual and the wider community.

The Misuse of Drugs Act 1971 regulates the misuse of drugs. There are three classes of drugs grouped on the basis of decreasing order of harmfulness. The Schedules to the Misuse of Drugs Regulations 2001 classify controlled drugs for lawful purposes and are of practical importance to pharmacists and practitioners.

All members of the pharmacy team have a role to play in providing harm reduction interventions for substance misusers; effective communication is important, as is an awareness of confidentiality issues and an understanding of how to build working relationships with clients.

Pharmacists can minimise misuse of over-the-counter (OTC) medicines by educating pharmacy staff about OTC products liable to misuse, such as codeine-containing preparations, setting up standard operating procedures and policies, and advising and referring individuals suspected to be misusing OTC medicines.

<table>
<thead>
<tr>
<th>Intended outcomes</th>
<th>Can you?</th>
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<tbody>
<tr>
<td>By the end of this section you should be able to:</td>
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<tr>
<td>► understand the reasons for providing substance misuse services</td>
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<tr>
<td>► understand the concept of dependence</td>
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<tr>
<td>► describe the key legislation relevant to substance misuse</td>
<td></td>
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<tr>
<td>► outline the most commonly misused illegal substances</td>
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<tr>
<td>► be aware of how legal substances can be misused</td>
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</tr>
<tr>
<td>► understand the importance of involving the whole pharmacy team when working with substance misusers.</td>
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Suggested answers

**Exercise 1 – Misuse of Drugs Act 1971 (page 6)**

In Scenario 1 Anthony may be charged with possession with intent to supply if the drugs are found before he gives them to his friends, as the number of tablets of ecstasy he possesses would probably be deemed too much for personal consumption. If he is arrested after distributing the drugs he could be charged with supplying a Class A drug.

In Scenario 2 Anthony has still committed the offence of attempting to possess a Class A drug. Even though he was unsuccessful in obtaining it, attempted possession of a controlled drug is still an offence.

In Scenario 3 Anthony also breaks the law as it is an offence to offer to supply a controlled drug, even if the defendant did not do so and either had no intention or ability to do so.

**Exercise 3 (page 10)**

The results were as follows:

![Bar chart showing overall harm scores for different substances]

Source: Adapted from The Lancet, 2010

*Also known as Metamphetamine and Metamfetamine

**Also known as Amfetamine
Exercise 4 (page 21)

What situations would you consider to be ‘exceptional circumstances’ which would allow you to disclose confidential information about an individual without their consent?

- Where the patient’s parent, guardian or carer has consented to the disclosure and the patient’s apparent age or health makes them incapable of giving consent to disclose.
- Where disclosure of the information is to a person or body empowered by statute to require such disclosure; (e.g., a GPhC inspector or a controlled drugs inspector, depending on the respective inspector’s role and the nature of the investigation).
- Where disclosure is directed by a coroner, judge or other presiding officer of a court, the crown prosecution office in England and Wales, or procurator fiscal in Scotland.
- To a police officer or NHS fraud investigation officer who provides confirmation in writing that disclosure is necessary to assist in the prevention, detection or prosecution of serious crime.
- Where necessary to prevent serious injury or damage to the health of the patient, a third party or to public health.
- Where necessary for the safeguarding of children and vulnerable adults.

Case study 1 – Exam nerves (page 8)

What do you say?

Samina obviously realises that she shouldn’t have taken her aunt’s tablets but it is still worth emphasising that regardless of the legal position it is extremely unwise and often unsafe to take medicines prescribed for someone else.

In this instance diazepam is covered under Schedule 4 of the Misuse of Drugs Regulations 2001, as amended, which means it can legally be possessed without a prescription. Thus, Samina herself did not break the law, but by supplying the drug Samina’s aunt committed an offence under the regulations, and so did break the law.

Would the legal situation be different if the drug in question had been temazepam instead of diazepam?

If the drug in question were temazepam both Samina and her aunt would have broken the law, as temazepam is a Schedule 3 drug and it is illegal to possess it without a prescription or other authority.
Part 1

What are the three possible ways of dealing with the situation described and their consequences.

(We have made some suggestions here, but you may have thought of alternative ways of handling the situation.)

a. Call the police and have the customer arrested in the pharmacy. Not the best option as it could involve a considerable wait, plus you are really not sure that the alteration is fraudulent. It would be unfortunate for the customer to be arrested for a genuine prescription.

b. Call the GP. This would be a good idea as it would give you the answer but the GP won’t be at the surgery for another hour. The client might not want to wait or come back.

c. Speak to the client to see what she is expecting. It is unlikely that her answer will be unbiased.

Part 2

What should you do now?

You could dispense the prescription if you are convinced that it is genuine. Likewise, if you are convinced that the alteration has been made by the client, you could hold onto the prescription until you can speak to the GP. If the client creates problems and demands the prescription back (which is their right), the prescription should be stamped with your pharmacy’s name and address. This may diffuse the situation but alerts another pharmacy if the prescription is offered for dispensing. No prescription, the legality of which is in question, should be returned to a client unmarked, as this only passes the problem onto someone else.
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Section 2

Drug treatment services in England

Objectives

On completion of this section you should be able to:

- describe the key government strategies with regard to substance misuse
- outline the national clinical guidance that underpins the treatment of substance misusers
- outline the care of substance misusers in the community and within the criminal justice system
- explain shared care and the role of the pharmacist within this system of care
- be aware of the role for pharmacist prescribers in the treatment of substance misuse.

2.1 Government policy and organisations

Central and local government spend around £1.2 billion a year tackling drug use in England. The estimated cost to society of problem drug use in 2003/2004 was around £15.4 billion a year; 90 percent of which was attributable to drug-related offences. Early intervention cannot only significantly reduce the harm from problem drug use and the related costs to society, but it can also help to reduce the numbers of drug users in future generations.

Government drug strategy

The government drug strategy sets the framework for the delivery of drug policy. The current drug strategy *Reducing demand, restricting supply, building recovery, supporting people to live a drug free life* was published in December 2010 and has a strong emphasis on supporting treatment and full recovery. It seeks to put the individual at the heart of their recovery journey, with the aim of helping them to become drug-free, so that they are able to reintegrate into society. The strategy sets out a vision for a multi-agency approach, supporting individuals with skills training, employment, housing and wider health services. To read the current drug strategy in full, visit the Home Office website at:


The National Treatment Agency for Substance Misuse

The National Treatment Agency for Substance Misuse (NTA) is a special health authority, set up in 2001 to *improve the availability, capacity and effectiveness of treatment for illegal drug use in England*. Its priority now is to focus on the challenge of enabling people to make a full recovery from addiction, addressing the entire range of issues they face in their reintegration back into society.
In July 2010 the Government announced that treatment for addiction to drugs will form a core part of a new Public Health Service and that in April 2012 the National Treatment Agency will cease to exist as a separate organisation, with its functions being transferred to the new Public Health Service. Until this happens the National Treatment Agency continues to focus on the following:

- improving outcomes for those in treatment
- providing better value for money from central investment
- championing abstinence-focused treatment
- re-balancing the system to ensure a consistent approach to commissioning community and residential rehabilitation
- consulting with clinicians, practitioners and providers to ensure that any changes are underpinned by the latest evidence and best practice.

National framework for drug treatment

In 2002 the National Treatment Agency for Substance Misuse published: Models of care for treatment of adult drug misusers, which set out the national framework for commissioning the treatment of adult substance misusers in England, describing best practice in drug treatment provision. Updated in 2006, this document highlights the importance of integrated care pathways using a four tiered model of commissioning, as summarised below.

**Tier 1**: drug interventions, such as screening, assessment and harm reduction advice, that can be provided by generic providers, depending on their competence and the partnership arrangements they have in place with specialised drug services.

**Tier 2**: includes brief psychosocial interventions, harm reduction interventions, including pharmacy needle and syringe programmes and support for those who are now drug free, as well as referral to structured drug treatment.

**Tier 3**: community-based specialist drug assessment, care-planned treatment and care co-ordination, as well as drug specialist liaison. Includes pharmacies providing dispensing and supervised consumption services.

**Tier 4**: covers the provision of residential specialised drug treatment including inpatient detoxification.

Recent changes to the availability and effectiveness of drug treatment, as well as publication of NICE guidance on substance misuse means that Models of care is now outdated. The National Treatment Agency is currently developing a new framework, due to be published in 2011.

Advisory Council on the Misuse of Drugs

The Advisory Council on the Misuse of Drugs (ACMD) is a statutory and non-executive non-departmental public body with pharmacy representation, which was established under the Misuse of Drugs Act 1971. The ACMD has a statutory duty to advise the government on the misuse of drugs and the health and social problems these may cause. Its Prevention Working Group carries out in-depth enquiries into aspects of substance misuse that are causing particular concern, with the aim of producing reports that will be helpful to policy-makers, service
providers and others. The ACMD reports are available on the Home Office website at: http://www.homeoffice.gov.uk

**Drug Action Teams**

Drug Action Teams (DATs), often known as ‘Drug and Alcohol Action Teams’ (DAATs), are the partnerships responsible for delivering the drug strategy at a local level. They ensure that the work of local agencies is brought together effectively and that cross-agency projects are co-ordinated successfully. Their remit includes:

- commissioning services, including supporting structures
- monitoring and reporting on performance
- communicating plans, activities and performance to stakeholders.

### 2.2 Clinical management of substance misuse

Treatment of substance misuse in the UK is carried out in line with the Department of Health’s guidelines and NICE guidance.

*Drug misuse and dependence – UK guidelines on clinical management (2007)*

otherwise known at the ‘Orange book’, was first published in 1999 and updated in 2007. These guidelines offer much more than guidance on prescribing; they guide the reader through the best practice points of the management of substance misuse and drug dependence.

We have summarised the key messages from the *UK guidelines on clinical management* below.

- The UK rates of substance misuse and its associated morbidity and mortality are among the highest in the western world. Drug-related deaths due to overdose in the UK are among the highest in Europe.
- Drug treatment is effective, has an evidence base and is cost-effective. It has an impact on levels of drug use, offending, overdose risk and spread of blood-borne viruses.
- Substance misusers may have multiple social and medical problems and their mortality rates are higher than people who do not misuse substances.
- Substance misuse has a serious impact on the families of the substance misusers, especially children of drug-using parents. Effective treatment of the parent can greatly improve the situation.
- When dealing with substance misusers, healthcare professionals should ensure they show no prejudice or discrimination and remember that clients have the same entitlement to NHS services as other patients. Healthcare professionals must provide care for both general health needs and drug-related problems, whether or not the patient is ready to withdraw from drugs.

**National Institute for Health and Clinical Excellence (NICE)**

Over recent years, NICE has issued guidance on many areas relating to substance misuse. If you are offering any services to substance misusers you need to be aware of this guidance and keep abreast of any updates as they are published.
Below is a list of some of the most relevant recent publications at the time of printing, which are all available online at: http://www.nice.org.uk We refer to most of these documents in more detail in other sections of this programme.

Clinical guidelines
These guidelines focus on offering the most effective treatment and support to encourage substance misusers over the age of 16 to tackle their drug problem. The recommendations include offering advice to families and carers on how they can provide support and giving substance misusers the opportunity to make their own choices on how to tackle drug problems.

Technology appraisals
This appraisal fully endorses the use of methadone and buprenorphine maintenance in the context of care-planned drug treatment. It recommends flexible dosage regimes and advises that, if both drugs are equally suitable for an individual client, then methadone should be prescribed as first choice. It also recommends that both drugs should be administered daily, under supervision, for at least the first three months.
This appraisal recommends the use of naltrexone to maintain abstinence for people who are highly motivated to stay free from opioids.

Public health guidance
This guidance is aimed at NHS and non-NHS practitioners and others who have a direct or indirect role in, and responsibility for, reducing substance misuse among vulnerable and disadvantaged children and young people aged under 25.

2.3 Drug treatment services in the community
There are a wide range of services that substance misusers can access in the community. These services do not operate in isolation, but rather clients can access different routes of treatment across all tiers, depending on how far along their treatment journey they are. Most services offer clients the choice of detoxification or maintenance therapy, as the latter has become more widely recognised as successfully preventing drug-related deaths, improving health, reducing crime related to drug use, and reducing illegal drug use. Also, maintenance is a good route into detoxification.
Outpatient services
These services are provided by a mix of statutory and non-statutory organisations in a wide range of primary and secondary care settings. They include GP practices, pharmacies, hospital-based clinics, charity-based outreach or drop-in, and community drug teams (CDTs). Staffing is usually multidisciplinary, including doctors, non-medical prescribers and social workers. A full range of services is provided, from harm reduction advice, needle and syringe programmes, psychosocial interventions, substitute prescribing for maintenance or detoxification and aftercare, to support with social functioning and family life.

Practice point
Are you aware of all the organisations providing outpatient drug services in your locality?
Are there any that you do not currently interact with that you could form links with or refer clients to?

Inpatient units
Inpatient facilities in hospitals can be very restricted and are usually reserved for assessment of a severe drug problem, for stabilisation, for alcohol detoxification, or for the treatment of the complications of drug use. The potential advantage of inpatient treatment is the speeding up of the withdrawal process in a supportive environment.

Residential rehabilitation and after-care
Residential rehabilitation centres are often run by voluntary organisations and are not consistent UK-wide; they are often based in coastal and rural settings, away from easy access to drugs and normal social circles. Some include detoxification treatment as part of the programme, while other centres require individuals to have stopped using drugs prior to their stay. Their aim is to support a client’s transition to a life without drugs. Recently, volunteer organisations have extended their activities outside the rehabilitation field and now offer a variety of services for drug users. These include walk-in counselling sessions, telephone advisory services, self-help groups, family support groups and day centres.

Self-help groups (mutual aid)
This form of support enables groups of individuals with similar problems to meet voluntarily, to help each other and themselves. In substance misuse the most common are: Narcotics Anonymous (NA) and Alcoholics Anonymous (AA). However, other groups include tranquilliser dependence, solvent misuse and smoking groups. Online self-help groups are also becoming a valuable source of support for many.
2.4 Shared care

Substance misuse shared care is defined by the Department of Health as ‘the joint participation of specialists and GPs (and other agencies as appropriate) in the planned delivery of care for clients with a drug misuse problem.’ Since this term originated, the development of services in primary care has grown to such an extent that in many of the more straightforward cases specialists are not involved at all. However, it remains the case that, rather than a specific individual, a team should manage all clients. In primary care this is usually the GP, a keyworker and the pharmacist, with the option of referral to specialists where necessary for more complex cases. Keyworkers come from a range of backgrounds, which may be clinical or not, including in some services, people who used to be substance users.

The exact model of shared care can vary between areas. It is important that you are aware of the model established within your locality. Regardless of the local model, the underpinning principles of shared care are:

- patients in all local areas should have access to long-term care where clinically appropriate – even after exit from prescribed treatment (aftercare)– as well as community-based multidisciplinary support
- there should be unobstructed transfer of patients between the services sharing their care as their clinical needs change.

Shared care should be commissioned according to local needs, and in line with medical competences and appropriate clinical governance arrangements. These shared care arrangements should be developed, refined and then regularly reviewed.

Practice point

Each locality should have an established Shared Care Monitoring Group which is responsible for taking the lead and monitoring local strategy for all shared care, including managing substance misuse clients.

Are you aware of your local group and what pharmacy representation there is on the group?

When a client initially presents for treatment at any agency, the aim is to ensure the client is sufficiently engaged, encouraged and supported to remain in treatment. This is because, naturally, clients do better when in contact with treatment services than when out of contact. They may be asked to sign an agreement, either three-way to include the client, GP and pharmacist, or four-way which also includes the keyworker. The agreement outlines the responsibilities of all parties. (Section 5 looks at shared care agreements in more detail.)

Clients should not be discharged from shared care programmes because they are using illicit drugs – it may indicate that an increase in the prescribed dose of methadone is needed. Discharge should be a last resort, for example, for violent and threatening behaviour towards staff. If a client does have to be discharged,
ideally a short time limit should be set, with a view to getting the client back into treatment, perhaps insisting there are extra boundaries set or precautions taken. In some rare cases clients, for example, those with a history of violent behaviour, may only be suitable for treatment in a specialist centre.

The key to successful shared care is good regular communication between everyone involved, including the client.

Within a shared care arrangement, each of the partners has a responsibility to share relevant information about the client’s treatment and behaviour with each other; however, each person also has a defined role and responsibilities.

- Prescribers must ensure that they prescribe in accordance with UK guidelines, have frequent contact with the client in the early stage of treatment, and regular ongoing contact. They should have arrangements in place to ensure locums are adequately informed and clinically able to prescribe for substance misuse and should refer the client to the specialist addiction unit where appropriate.

- Keyworkers are responsible for liaising with the client’s GP and pharmacist, as well as being responsible for supporting the client with non-clinical issues, such as housing.

- The specialist addiction unit (SAU) or the drug treatment centre (DTC) will provide treatment for those clients who are inappropriate to treat in primary care, referring them back once stabilised and providing advice and support to professionals in primary care.

The typical responsibilities of the pharmacist are to:

- only accept a client for supervision if there is the capacity to do so; usually numbers will depend on the size of the pharmacy, the supervision facilities, number of staff and their experience

- inform the client of any pharmacy specific ‘rules’, collection times, etc

- whenever possible have the dispensed items ready in advance to provide an efficient service

- observe the consumption of methadone or buprenorphine in a private/discreet way that does not draw attention to or degrade the client

- be vigilant for errors and query any large doses (eg, initial doses in excess of 40 mg methadone daily, particularly if unexpected and not discussed with the pharmacist by the prescriber/keyworker)

- inform the community drug team/keyworker of any regular missed doses and inform the prescriber and community drug team when three consecutive doses are missed (check your local policy – the number of doses missed may vary from three)

- consider refusing to supply if the client appears intoxicated; it is important to be aware that refusing immediately may lead to confrontation. The pharmacist should make an attempt to enter into a discussion with a client about their apparent state; in addition, it is important to find out whether the client is definitely intoxicated.

- advise the client in advance when a new prescription is due

- report any unacceptable behaviour to the community drug team and/or GP.
Wider role of the pharmacist in shared care schemes

Apart from observing the supervised consumption of methadone or buprenorphine there are many ways in which the pharmacist can contribute to the care of the client. The pharmacist is the only healthcare professional who sees clients on a daily basis and can therefore form close and trusting relationships with them. This contact is vital to help them to remain in treatment; however, in many cases this contact may be too brief and superficial. There are many ways that the pharmacist can contribute to the care of the client; we have suggested a few below.

- Identifying significant interactions – for example, methadone is metabolised by the liver and is therefore prone to interactions with other drugs which either affect or are affected by the same enzymes involved. Some of the common examples are anti-epileptic drugs, rifampicin and HIV medication. Pharmacists should advise prescribers of these potential interactions when these drugs are co-prescribed.

- Advising on side-effects – for example, clients may ask about side-effects because they are experiencing them, or because they want to know what to expect. Advice, support and the use of client information leaflets can help.

- Reporting missed doses – as tolerance to opiates is lost so quickly, most shared care schemes operate a policy where prescribers are informed when a client misses three or more consecutive doses. However, this can mean that keyworkers and prescribers would not be aware if a client regularly misses two days at a time. Pharmacists can help by being involved in the decision to move a client from supervised consumption to daily pick-ups.

- Being aware of drug forms – for example, methadone liquid is available as both sugar-containing and sugar-free, the former being more viscous and palatable. These are different formulations that cannot be substituted without a change to the prescription, so pharmacists should be aware of abrupt changes of formula.

- Identifying new clients – pharmacies operating needle and syringe programmes often see clients that are not actively in treatment. Pharmacists are, therefore, ideally placed to promote themselves as a first point of contact when a client is ready for further help.

- Being prepared to refer clients – many of the clients that access substance misuse schemes have problems which are not managed at one site, for example, they may have social, mental health, alcohol, dental or criminal justice problems. It is important therefore that pharmacists not only know their own limitations, but are able to refer the client to the correct place.

2.5 Treatment of substance misuse via the criminal justice system

Recent research which matched anonymised data from the Police National Computer to information in the National Drug Treatment Monitoring System showed that the total number of crimes committed by users almost halved following the start of treatment.\(^4\)

A quarter of those coming into treatment currently (2010) are referred from the criminal justice system.\(^4\) Following trials, using different models, there are now several points within the criminal justice system at which a client can be referred.
and entered into treatment. Usually clients are offered the choice of entering into
treatment, as uptake and adherence to treatment can often prevent a prison
sentence. The treatment keyworker will work closely with the Drug Interventions
Programme (DIP) team.

The Drug Interventions Programme

The Drug Interventions Programme (DIP) involves criminal justice and drug
treatment providers working together with other services to provide a tailored
solution for adults who commit crime to fund their substance misuse. It aims to
break the cycle of substance misuse and offending behaviour by intervening at
every stage of the criminal justice system to engage offenders in drug treatment.

Since its introduction in 2003, the Drug Interventions Programme has introduced
a number of interventions, such as:

- drug testing on arrest for specific offences – those who test positive for heroin or
cocaine must have an assessment of their drug use; non-attendance is a criminal
offence
- a drug rehabilitation requirement (DDR) – requiring the offender to actively
address their drug problem by understanding how their drug use affects them
and others around them
- restrictions on bail for offenders using certain drugs
- community sentences – a number of community sentences now exist that
incorporate requirements to undergo treatment (with consent); they are usually
targeted at offenders with a significant number of prison convictions and
custodial sentences
- civil orders – designed to get anti-social substance misusers in the community
into treatment, if they are not already receiving treatment
- aftercare – what happens after drug misusing offenders are released from
custodial sentences, complete community sentences and/or leave treatment.
Drug treatment itself plays only one part in supporting rehabilitation and
reintegration. Aftercare can involve several important factors, such as housing,
support with benefits, managing finances, employment, education and training,
access to mental health services, and rebuilding family relationships.
- drug-testing in prison – prisoners are subject to mandatory drug testing. To help
offenders stay drug-free, all prisoners are eligible to sign up to the voluntary
drug-testing programme. Remaining drug-free can be beneficial as they may get
release on temporary licence, or transfer to open conditions.

Criminal Justice Integrated Teams and CARATs

Criminal Justice Integrated Teams (CJIT’s) encourage problematic substance
misusing offenders to access treatment and aftercare support. Within prisons,
communication and liaison with CJIT’s is through Counselling, Assessment,
Referral, Advice and Throughcare (CARAT) teams. CARAT teams consist of
keyworkers in prison who undertake initial assessments of drug-related need
and create care plans based on a prisoner’s specific requirements. They also
refer on to drug rehabilitation programmes, offer harm-minimisation advice and
establish throughcare links, working with prison resettlement teams and CJIT’s.
Integrated drug treatment system

An average of 84,500 drug-misusing prisoners may be in custody during the course of a year – with around 49,000 present at any one time. The introduction of an integrated drug treatment system (IDTS) in 2008 was designed to provide better treatment for prisoners, improved co-ordination of care and seamless care back into the community.

The integrated drug treatment system is due to be in operation in all prisons by 2011, bringing together the clinical and CARAT teams to provide a timely and safe assessment of a client and evidence-based clinical management, through a system focused on the individual. The integrated drug treatment system has expanded the range of treatment options available, in line with current UK clinical guidelines, and ensures more intensive CARAT interventions during the first 28 days of entry into custody.

Guidance to prisons was updated in April 2010 limiting open-ended prescribing of opiates in prisons to certain client groups, with others expected to move towards abstinence. Detoxification, gradual reduction and maintenance therapy are all options, but anyone serving over six months should be aiming to be drug free.

For some clients, becoming drug free may put them at increased risk of overdose on release, so maintenance therapy should be considered for those individuals:

- on remand
- serving less than 26 weeks
- who, after assessment, are shown to be at increased risk of overdose on release if they become drug free in prison.

These people should be reviewed every three months and their treatment should be changed as required.

The role of the pharmacist in the care of criminal justice clients

Pharmacists working in prisons and in the community should liaise closely with each other and with relevant clinicians, to help ensure continuity of treatment for clients within the criminal justice service. In particular, pharmacists dispensing opioid substitutes need to be aware of the additional risks to clients who may be arrested and, as a consequence, may miss doses of their medication and lose tolerance. Doses may need to be collected by custody/police officers who should provide a written note from the client confirming authorisation that the officer can collect the medication on behalf of the client. In addition, prisons may contact community pharmacists to verify the drug and dose a client is being prescribed and seek confirmation that the client has been taking their doses regularly. Pharmacists will, of course, need to take sensible precautions regarding confidentiality when giving out such information, to ensure the client’s interests are best served.

On release from prison continuity of care has been improved by the issuing of FP10s and FP10s (MDA) to those prescribed methadone or buprenorphine. As clients will need to have their doses supervised at least initially, the prison pharmacy should liaise with the chosen community pharmacy wherever possible to ensure they have capacity. (See Section 5 for more information.)
2.6 The role of pharmacist prescribers in the treatment of substance misuse

The role of pharmacists as prescribers for substance misusers is a rapidly expanding area. Although at the time of writing (October 2010), pharmacist prescribers are unable to prescribe controlled drugs independently, there is a significant role for pharmacists (and other non-medical prescribers) to use their prescribing skills in drug treatment clinics as supplementary prescribers.

Take a look at some examples of pharmacists who have got involved in prescribing for substance misuse, by visiting the National Prescribing Centre web page at:
http://www.npc.co.uk/prescribers/sharing_practice/substance_misuse.htm

CPPE have published three open learning programmes aimed specifically at non-medical prescribers. For more information visit:
http://www.cppe.ac.uk/prescribers
**Summary**

Treatment of substance misuse in England, is carried out in line with *Drug misuse and dependence – UK guidelines on clinical management* (2007) and NICE guidance, using integrated care pathways that span a four-tiered model of delivery. Clients may self-refer or be referred via the criminal justice system.

Drug treatment services in the community are delivered via a wide range of formats with both the voluntary sector and the NHS playing a role.

Shared care involves the joint participation of specialists, GPs and other healthcare professionals, including pharmacists in the planned delivery of care for substance misuse clients. There are many different models but for each of these, the key to successful shared care is good communication between everyone involved.

Changes have been made to care within prisons to align it to treatment in the community and effective communication between prison pharmacists and those in the community is important to ensure seamless continuity of care, both for clients moving within the criminal justice system, and those who are returning to the community.

The role of pharmacists with special interest (PwSI) as prescribers in the area of substance misuse is a growing one, offering many opportunities for innovative ways of working.

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<thead>
<tr>
<th>Intended outcomes</th>
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<tr>
<td>By the end of this section you should be able to:</td>
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<tr>
<td>✔️ describe the key government strategies with regard to substance misuse</td>
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<td>✔️ outline the national clinical guidance that underpins the treatment of substance misusers</td>
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<td>✔️ outline the care of substance misusers in the community and within the criminal justice system</td>
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<td>✔️ explain shared care and the role of the pharmacist within this system of care</td>
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<td>✔️ be aware of the role for pharmacist prescribers in the treatment of substance misuse.</td>
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References


Section 3

Reducing drug-related harm: safer injecting, overdose prevention and health promotion

Objectives

On completion of this section you should be able to:

- define harm reduction and outline its principles
- understand the risks and complications of injecting
- provide advice on safer injecting practice
- recognise the signs and symptoms of opiate overdose and be able to manage it in a pharmacy setting
- describe the health promotion interventions that pharmacy can provide to improve the health of substance misusers.

‘Harm reduction is an internationally well established, evidence-based approach to drug treatment, rooted in public health and human rights. The UK has lead the way in harm reduction over the past 20 years, hosting the first and most recent International Harm Reduction Association conferences.’

National Treatment Agency for Substance Misuse

The term ‘harm reduction’ was adopted in the 1980s to describe the activities and services that were developed to limit the spread of HIV to injecting drug users. Since then, harm reduction approaches have been extended far wider than needle exchange, to include hepatitis B and C prevention, reducing overdose deaths, improving the general health of drug users and providing drug treatment for substance misuse. The aim is to keep all substance misusers as healthy as possible, whether or not they are currently receiving treatment.

Community pharmacy is in a unique position to provide effective harm reduction support, as not only do pharmacy staff see clients who are in treatment for substance misuse on a regular, often daily basis, but they are also accessible to anyone who does not have contact with any other healthcare professional or access any other services, such as new injectors accessing needle and syringe programmes.
If you work in a community pharmacy, consider the questions below regarding harm reduction.

What harm reduction interventions or services do you offer currently?

If you don’t offer any harm reduction interventions or services, where do you signpost to?

What other harm reduction services would you like to be able to deliver in your pharmacy?

What harm reduction resources or literature do you have access to?

Do you know the contact details for any local harm reduction groups?

### 3.1 Harm reduction definition and principles

‘Harm reduction is a term that defines policies, programmes, services, and actions that work to reduce the health, social, and economic harms to individuals, communities, and society that are associated with the use of drugs.’

UK Harm Reduction Alliance (UKHRA)²

Principles of harm reduction

The following principles of harm reduction are used by the UK Harm Reduction Alliance and are adapted from those set out by the Canadian Centre on Substance Abuse³ and Lenton and Single.⁴

**Harm reduction:**

- is pragmatic – it acknowledges that, while carrying risks, drug use also provides the user with benefits that must be taken into account if responses to drug use are to be effective. Harm reduction recognises that containment and reduction of drug-related harm is a more feasible option than efforts to eliminate drug use entirely.

- prioritises goals – achieving the most immediate realistic goals is viewed as an essential first step toward risk-free use, or, if appropriate, abstinence

- has humanist values – the drug user’s decision to use drugs is accepted as fact. No moral judgment is made either to condemn or to support use of drugs. The dignity and rights of the drug user are respected, and services endeavour to be ‘user-friendly’ in the way they operate.

- focuses on risks and harm – on the basis that by providing responses that reduce risk, harm can be reduced or avoided. The focus of risk-reduction interventions is usually the drug-taking behaviour of the drug user. However, it recognises that people’s ability to change behaviours is also influenced by the wider community, so interventions may therefore target individuals, communities and the wider society.
does not focus on abstinence – although harm reduction supports those who seek to moderate, reduce or cease their drug use, it neither excludes nor presumes a treatment goal of abstinence

- seeks to maximise the range of intervention options that are available, and engages in a process of identifying, measuring and assessing the relative importance of drug-related harms, and balancing costs and benefits in trying to reduce them

- operates on the basis of providing the knowledge that individuals and communities require to alter potentially harmful behaviours, alongside, where necessary, the means to do so. 

3.2 Harm reduction campaigns

In 2007 the National Treatment Agency and Department of Health published: *Reducing drug-related harm: an action plan* (available online at: [http://www.dh.gov.uk](http://www.dh.gov.uk)) in response to an unexpected rise in drug-related deaths and blood-borne virus infections among substance misusers. The plan committed to reducing the burden of illness and death caused by illegal drug use through improved surveillance of service provision, improved delivery of harm reduction services, and information campaigns aimed at drug users and drug services.

One key campaign was Harm Reduction Works, developed by Exchange Supplies ([http://www.exchangesupplies.org](http://www.exchangesupplies.org)) for the National Treatment Agency and launched in 2008. Harm Reduction Works offers a full range of literature, video downloads and web-based information, available free of charge to anyone offering harm reduction services in England. Further information about the campaign is available at: [http://www.harmreductionworks.org.uk](http://www.harmreductionworks.org.uk)

You may find it useful to order their DVD that deals with blood-borne viruses, overdose, femoral injecting and handwashing. A selection of the videos is also available to view on the Harm Reduction Works channel on Youtube; useful if you want to direct clients or staff to them.

**Exercise 5**

Spend some time becoming familiar the Exchange Supplies and Harm Reduction Works websites.

What resources might be useful to support you in providing interventions to injecting drug users about ways to prepare their injections more safely?
3.3 Risks for injecting drug users

Injecting drug users are one of the main target audiences for harm reduction interventions. Injecting is the most harmful way of taking drugs and is the main cause of death related to short and long-term drug use. Although measures have been in place since the 1980s, findings of the 2009 Shooting up report, which looks at infection levels among injecting drug users, shows that many of the key messages are still not getting across. The key messages include:

- transmission of HIV and hepatitis C infection through injecting drug use remains higher than in the late 1990s. Overall, around two-fifths of injecting drug users are now infected with hepatitis C and about one in 73 with HIV.
- injecting site infections are common, with around one-third of injecting drug users reporting an abscess, sore or open wound at an injecting site in the last year.
- the dangerous practices of injecting into the groin and the injection of crack cocaine have become more common.
- needle and syringe sharing has declined in recent years, with around a fifth of injecting drug users reporting that they continue to share. The sharing of other injecting equipment, such as filters and spoons, is more common.

3.4 Blood-borne viruses

Blood-borne viruses can be spread by direct or indirect sharing of injecting equipment. Direct sharing involves passing previously used injecting equipment, such as a needle and syringe, between injectors. Indirect sharing often occurs when previously used, potentially contaminated equipment is reused. This may be accidental or non-intentional sharing due to a mix up in equipment, as opposed to direct sharing which is always intentional.

While clients are often aware that there may be risks from direct sharing, they are less aware of the indirect risks, so pharmacists should be prepared to advise on prevention, spread, testing and treatment.

Hepatitis C

Hepatitis C is on the increase in the UK. Prevalence is estimated to be around 250,000 of the general population. Around 20 percent of those infected clear the virus without treatment, leaving 200,000 people chronically infected. Of these, 90 percent are injecting drug users, which equates to around two-fifths of all injecting drug users. There is a large regional variation in infection levels, with a quarter of all injecting drug users affected in the north-east of England and as many as two-thirds of injecting drug users in other areas, including London and Glasgow.

Hepatitis C has very serious potential consequences for most of those infected, with around 80 percent of injectors being at risk of developing serious liver disease, including cirrhosis and liver cancer, if the disease is untreated.
Most people who become infected are not aware of it at the time, as many people with chronic infection have no symptoms. For those who do feel unwell, symptoms include mild to severe fatigue, loss of appetite, weight loss, depression or anxiety, poor memory or concentration, and pain or discomfort in the liver; jaundice is rare.

This lack of symptoms in many people means that a large majority are undiagnosed (current estimates are that half of all injectors do not know their hepatitis C status) and are therefore at risk of spreading the infection through sharing of injecting and snorting equipment, and more rarely, through sexual activity, a route which carries a lower risk of infection. This undiagnosed population are also unknowingly putting themselves at increased risk of liver disease if they drink alcohol, especially to excess.

There is no vaccination for hepatitis C, so raising awareness of the virus and of the screening available are key to reducing infection levels.

The *Hepatitis C: Action plan for England 2004* recommends that anyone attending drug treatment services in England should be routinely offered confidential testing for hepatitis C.

In 2009, a three-month pilot run in 19 pharmacies across five commissioning groups in England tested 234 people in high risk areas for hepatitis B and C, using dry spot blood testing. Of these, one in six tested positive for hepatitis B or C. Thirty-five people (15 percent) tested positive for hepatitis C, of which 31 were current or former injecting drug users. These diagnoses rates are far higher than in GP surgeries where only four percent test positive for hepatitis C, indicating a clear role for pharmacy. In the Isle of Wight, the location of some of the pilot sites, the commissioning group has continued the service and extended the testing to include HIV and syphilis.

**Practice point**

Where can you currently signpost people to for hepatitis C screening?

Is this a service you could offer in your pharmacy?

Diagnosed and treated, hepatitis C can be cured in around 70 percent of cases, and NICE guidance advocates early treatment for all those who want it. In the past, a substantial proportion of clients with hepatitis C did not respond well to treatment; however, the development of more effective antivirals used in combination means that sustained positive treatment outcomes are more likely. For this reason screening should be actively encouraged, even for people who may not be at ongoing risk, for example, previous injecting drug users.
For more information on the treatment of hepatitis C, see current NICE guidance:


Visit the Hepatitis C Trust website (http://www.hepctrust.org.uk) for patient-friendly information on treatment and useful information about the practicalities of living with hepatitis C.

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**Exercise 6**

One of your regular clients has come in today and told you that they have just tested positive for hepatitis C. They are not sure whether or not they should have treatment and want your advice as they have heard it is hard going and doesn’t always work.

Using the links above and clinical knowledge summaries at: http://www.cks.nhs.uk, construct a response, including:

- why it works for some and not others
- healthcare advice that could help them manage their condition
- organisations you could signpost them to.

*Turn to the end of the section for suggested answers.*
Hepatitis B
In contrast with hepatitis C, hepatitis B is on the decline in the UK, with around one in six injecting drug users having antibodies.\(^5\) It is preventable by immunisation, and the percentage of injectors who self-reported that they had been vaccinated with at least one dose of hepatitis B increased from around 37 percent in 2001 to over 65 percent in 2008.

Immunisation programmes run in most parts of the country. They usually operate in treatment services, needle exchanges and prisons and can be very successful in ensuring drug users complete the full course of injections. To maximise completion rates, flexibility and resolve are vital.

In the UK hepatitis B is usually acquired in adulthood. The primary route is via sexual intercourse, with injecting drug use in second place. The majority of hepatitis B infections involve an acute illness, which can range from very mild to occasionally very severe. A small number of people infected with the virus go on to develop chronic liver disease.

Practice point
Do you know where hepatitis B immunisation is offered in your local area? Could you offer this service in your pharmacy? If so, you may find it useful to work through the CPPE open learning programme: Immunisation in pharmacies: developing your service (available to order or download from: http://www.cppe.ac.uk/openlearning).

HIV
Although HIV is potentially one of the most serious infections that injecting drug users are at risk of acquiring, infection among UK injectors remains relatively uncommon, despite fears of an approaching epidemic in the early 1980s. This may be because of the prompt instigation in the mid-1980s of harm reduction measures, such as needle and syringe provision, to prevent transmission. However, low rates can lead to complacency and in recent years numbers have started to creep up.\(^5\)

The prevalence of HIV among injecting drug users in London has remained unchanged in ten years, at around 1 in 20, however, in the rest of the UK numbers rose from 1 in 400 in 2002, to 1 in 91 in 2008, giving a national average of around 1 in 73 injecting drug users infected.\(^5\)
3.5 Other infections caused by injecting

Hepatitis A

Hepatitis A (HAV) is a very infectious, water-borne virus and usually spread via the oro-faecal route. Until the mid-1990s it mainly affected homosexual men and people visiting endemic countries.

Outbreaks of hepatitis A are becoming more commonly reported among injecting drug users and their close contacts. Usually waterborne, in the incubation stage of the disease there is a transient viraemia, which allows the infection to be spread by blood-to-blood contact. It is likely that where widespread outbreaks occur, both methods of transmission are responsible, through poor hygiene, sharing of equipment, unsafe sexual activity and via the smuggling of drugs inside the body. Pharmacists should be able to give advice to clients about preventing the spread of hepatitis A.

Hepatitis A can be easily prevented by immunisation, and is recommended alongside the hepatitis B vaccine to help prevent serious future liver disease for clients who are hepatitis C-positive. Although there is a combined hepatitis A and B vaccine, the Royal College of General Practitioners recommend the single component HAV vaccine. This is due to the reduced likelihood of a drug user returning for a subsequent dose. One dose of HAV vaccine confers greater protection against hepatitis A than one dose of the combined vaccine, as the combined vaccine only has half the amount of hepatitis A antigen.9

Bacterial infections

Bacterial infections can be spread by sharing of equipment, but also through poor personal hygiene before injecting. Handwashing is a simple yet very effective harm reduction measure that pharmacists can promote to reduce the spread of infection.

Anthrax

Caused by the bacteria Bacillus anthracis, anthrax is a rare but serious bacterial infection curable by local debridement and intravenous antibiotics if diagnosed and treated quickly. In 2010 there have been five cases of anthrax in injecting drug users in England, while a similar outbreak in Scotland has affected 47 people since December 2009, killing six.10 Thought to be from contaminated heroin, most cases presented as injection-related soft tissue injuries, with generalised flu-like symptoms.

Clostridia

Clostridia are a group of bacteria that exist naturally in spore form in soil and sand, and often in the guts of animals and humans. These spores may end up in drugs such as heroin, through environmental contamination. However, when they get into body tissues, some species produce toxins that can cause severe illness and death – each type of clostridium produces different toxins that tend to have distinct effects on the body.

Clostridia are anaerobic bacteria which can grow and thrive in low oxygen conditions, particularly those found just under the skin surface. Such infections in injecting drug users usually occur as a result of a subcutaneous injection ('skin
popping’) or a ‘missed hit’. It is less likely to occur when injecting into a vein as venous blood contains enough oxygen to prevent clostridia growth.

- Wound botulism occurs when wounds, such as injecting sites, are infected with Clostridium botulinum. Botulinum antitoxin is effective at reducing symptoms, if given early in the course of the infection.

- A toxin produced by Clostridium tetani causes tetanus. It usually presents with local fixed muscle rigidity and painful spasms confined to the area close to the site of injury or injection. Tetanus is a vaccine-preventable disease and the vaccine is routinely offered in childhood and adolescence.

**Advice on avoiding clostridia and anthrax infection**

Outbreaks tend to occur in clusters, probably as a result of contamination of batches of heroin with clostridium organisms – how this contamination occurs is poorly understood. If an outbreak occurs, all those in contact with injecting drug users, including pharmacists providing needle exchange services, or dispensing prescriptions for drug users, should give the following advice as a matter of urgency:

- it is safer to smoke, snort or take drugs by mouth rather than inject them
- if clients inject, they should not inject into muscle or skin pop – make sure they hit a vein
- be particularly careful to always wash and dry their hands and clean their injecting sites thoroughly before injecting
- if a client develops an infection at an injecting site, they should seek medical help
- if a client develops symptoms they should seek medical help immediately.

**Soft tissue infections**

Soft tissue infections are the most commonly reported complication of injecting drug use. Once the skin surface has been broken, it is possible for bacteria to enter the tissues.

Bacteria can be present in the drugs, be introduced in the preparation process, or be part of the normal surface flora of the skin. Bacteria that can normally be found on the skin surface, such as Staphylococcus aureus and Streptococcus pyogenes are likely to cause infections when they get into the tissues. Soft tissue infections include: cellulitis, abscesses, ulcers and thrombophlebitis (this does not always have a bacterial component).

Ethnographic research into injecting practices has identified that needles may be touched or licked prior to injection. Discouraging these practices is likely to prevent at least some soft-tissue infections.

A particular problem is that injecting drug users often do not seek treatment for common soft tissue infections unless they become very problematic and painful. Even when quite severe problems are evident, injectors often prefer to attempt self-treatment, before seeking medical help. Discouraging inappropriate self-treatment and encouraging appropriate medical referral can be an important part of the pharmacist’s role.
**Streptococcal infections**

Streptococcal infections are often found in the nose, throat or in soft tissue infections. They tend to cause relatively mild illnesses, such as strep throat or impetigo. However, they can occasionally cause life-threatening conditions, such as necrotising fasciitis or toxic shock syndrome.

In the UK, injecting drug use has recently been found to be a major risk factor for the development of serious infections with Group A streptococci (*Streptococcus pyogenes*).

**Septicaemia**

Septicaemia can result from the injection of bacteria into the bloodstream or from a local infection, such as an abscess that has been left untreated or has been treated inappropriately. It is potentially life-threatening and should be considered in any injector with an unexplained fever.

**Endocarditis**

Endocarditis is a relatively uncommon, but potentially very serious complication of injecting drug use. Incidence of endocarditis is estimated at about two cases per 1000 injectors annually. It is more likely to occur in people who have pre-existing heart valve abnormalities and is usually caused by bacterial infections such as *S. aureus*, although it can occasionally be caused by fungi, such as *Candida*. Most endocarditis in injecting drug users occurs in the right side of the heart, due to infection from deoxygenated venous blood; in fact, right-sided endocarditis is rarely caused by anything other than injecting drug use. \(^{11,12,13}\)

Early symptoms of endocarditis can be very vague, including fever, chills, loss of appetite, weight loss, sweating and fatigue. Most of these symptoms can easily be confused with symptoms produced by heroin withdrawal. More serious symptoms, including those associated with heart failure, may develop if the infection progresses.

**Fungal infections**

**Candidiasis**

Disseminated candidiasis has been reported to occur among heroin injectors who have used lemon juice or vinegar to prepare brown street heroin for injection. Brown street heroin is in base form, and an acid is used to convert it to the water-soluble salt form to dissolve it for injection. It is likely that the lemon juice container is contaminated with candida, the lemon juice then acts as a growth medium, promoting rapid growth of the organism at room temperature. \(^{14}\)
Subsequent injection preparation using the lemon juice can then introduce the candidal infection in substantial concentrations into the bodies of injectors.

A rare but serious complication of candidiasis is mycotic endophthalmitis, causing blurred vision, oedema of the eyelid and eye pain. For this reason many needle and syringe programmes supply single-use, sometimes sterile sachets of citric or ascorbic (VitC) acids in powder form.

### 3.6 Other complications of injecting

There are many potential complications of injecting. This section covers the most common ones, except for overdose, which is covered on page 64.

**Injecting-related injuries**

Injuries directly related to injecting include:

- bruising
- collapsed veins
- venous ulcers
- accidental arterial injection.

Where appropriate, advice on treatment and wound care can be offered, together with strenuous advice to seek medical attention when it is required, otherwise serious complications can develop, resulting in a need for surgical interventions.

**Effects on the immune system**

Injecting drug users tend to show differences in their immune systems, when compared to non-injectors. These differences include raised levels of some immunoglobulins, depression of the cell-mediated immune system and the possible impairment of the functions of white blood cells. The reasons for these differences are not understood, but are probably associated with a wide range of factors, including frequent bacterial infections, blood-borne viral infections, increased exposure to foreign antigens, poor hygiene and poor diet.

**Thrombosis**

Poor injecting technique, especially into femoral veins (groin), can cause femoral venous thrombosis and embolisms.

**Pulmonary complications**

Injecting drug users are ten times more likely to develop pneumonia than the general population. This could be due to a variety of reasons, including:

- heavy cigarette smoking
- concurrent smoking of other drugs, such as crack cocaine
- non-fatal opiate overdose causing marked respiratory depression
- weakened immune response
- infection of the lungs via septicaemia or septic emboli as a result of endocarditis.
Granulomas have frequently been found in the lungs of injecting drug users and are particularly likely to be found in people injecting insoluble excipients, such as crushed tablets.

**Musculoskeletal problems**

Musculoskeletal problems as a result of injecting drug use do occur, although their incidence is difficult to estimate. The most likely complications, usually as a result of septic emboli from infections at other sites, are myositis, osteomyelitis, synovial joint infections and septic arthritis. The causative organism is usually *S. aureus*.

### 3.7 Safer injecting

Injecting is the most dangerous way to take drugs, because of the risk of infection and the risk of overdose. If someone is not already injecting, the best advice is not to start. For anyone who is already injecting, it is vitally important to give appropriate advice and information on reducing risks, to help prevent injury, disease and death.

Injecting drug users are a stigmatised and marginalised group. Becoming a drug injector is not usually a straightforward ‘lifestyle choice’. Usually individuals are living with or around injectors, they see injecting taking place and hear it being discussed. For some people this tends to normalise the behaviour and initiation into injecting may then take place. It is extremely rare for people to administer their first injections to themselves; like any other complex skill, it has to be learnt before it can be performed competently. It is at this stage that it may be possible to successfully intervene to delay or prevent initiation.

Any advice or information that you give should be accurate and unexaggerated. Providing balanced information about the problems that can result from injecting and how to prevent them is likely to be far better received than scare tactics. It will also help to build trust, which means clients may be more receptive to referral for treatment at a later stage.

**Alternatives to injecting**

Oral ingestion is the safest method of taking any drug. However, the effects are slower so the user does not get the same ‘rush’ as they would by using a method that goes straight to the bloodstream. The slower onset of action means overdose is less likely as users can gauge the potency of the drug and regulate their intake. The use of opioid substitution therapy with methadone or buprenorphine allows for safer administration of a drug with a longer duration of action, leading to reduced frequency of injecting, reduced risk of overdose and of infection. So, opioid substitution therapy should be offered to all injecting drug users who request it.

Drugs can also be smoked (eg, tobacco or marijuana) or ‘chased’ on foil (eg, heroin). Smoking and chasing still retain some of the ‘rush’ of injecting; however, the risks of infection and of overdose are far less and the effects last for longer than injecting.

Snorting or sniffing is usually safer than injection, in terms of transmission of blood-borne viruses. However, the membranes in the nose are very delicate and
can rupture when snorting so users should have their own snorting equipment not shared with anyone else, to prevent transmission of blood-borne viruses. As with injections, a clean preparation surface is required to prepare a drug for snorting. Nasal membranes can be seriously damaged by regular snorting.

The rectal route, otherwise known as UYB (up yer bum) should also be considered, under the supervision of an experienced service provider, as a harm reduction method for high-risk injectors of heroin. This route is not without risk of infection (including rectal abscesses) and overdose; however, for femoral injectors who are at risk of losing a limb this may be a practical alternative. It should not be used for cocaine, due to the vasoconstrictive action of the drug.

‘Break the Cycle’
The ‘Break the Cycle’ campaign was developed to help current injectors discourage new injectors by avoiding:

- injecting around non-injectors
- talking about injecting around non-injectors
- requests for initiation.

The Exchange Supplies website: http://www.exchangesupplies.org provides further information and resources on this campaign (go to the home page and enter ‘Break the Cycle’ into the search box).

3.8 Injecting paraphernalia

The 2009 Shooting up report indicated that while around one-fifth of intravenous drug users reported sharing needles and syringes, over one-third reported sharing other injecting paraphernalia, so it is clear that further education is needed.¹⁵

Needles and syringes

Needles and syringes are often reused. The main reason for reuse of needles and syringes is simple; not enough are supplied to make it possible for a new sterile needle and syringe to be used for each injection. The average injecting drug user will inject three times a day, but figures for the early 2000s showed that in England and Wales only sufficient needles and syringes were distributed to ensure one sterile syringe per injector per day.¹⁶ This lack of access to clean supplies leads to both the reuse of equipment by individuals and direct sharing between two or more people. As well as advice about never sharing, injectors should be aware of effective cleaning of needles and syringes for their own reuse with bleach and water. A simple instructional video on how to do this is available through the Harm Reduction Works website: (http://www.harmreductionworks.org.uk).

Femoral injectors and people using anabolic steroids have different needs with regard to sizes of needles and syringes. If your needle and syringe programme caters for these groups you should be aware of this and offer a choice of sizes where possible.
Spoons or cookers

Spoons, otherwise known as cookers, are the metal receptacles in which drugs that require heating are prepared. They can be purpose-made sterile containers that are intended for single personal use, domestic spoons, or the bottom of a soft drinks can. Preparation of drugs may leave a residue in the cooker, meaning that it is likely to be used at least once again. This reuse is much less likely to be a problem if the person keeps it for sole personal use. If they subsequently use it for preparation of a batch of injections for a small group of injectors, there is the potential that any infections present on the cooker could be transmitted to others because their needles come into contact with the used cooker (indirect sharing).

Filters

Filters are used to prevent insoluble particles being drawn up into the syringe. Most filters are homemade and consist of a piece of cigarette filter or cotton wool; although commercially produced single use sterile filters are available. Makeshift filters are fairly efficient at removing insoluble particles from solutions, but they also appear to hold back a significant amount of the drug. This has been laboratory tested using heroin and around 15-20 percent of the available heroin was held back in the filter. Unsurprisingly, this drug content gives such filters a financial value, because the filter can be ‘washed out’ to reclaim the drug. Filters may be saved for personal reuse or exchanged with others as part of the drugs micro-economy. This poses a serious risk from the spread of blood-borne viruses, as well as for bacterial and fungal infection, due to the fact that a warm, wet filter acts as a perfect breeding environment for micro-organisms. Reuse and sharing of filters also increase the risk of overdose as the residue means that the strength of the injection solution being used is unknown.

Acids

Acids are used to make street drugs, (such as brown heroin and crack cocaine) soluble for injection. When these drugs are bought in the base form they are only poorly soluble in small volumes of water. The addition of an acid and heat transforms them into a highly water-soluble form. Clients should be advised to add the acid in small quantities and use the minimum required to make the solution go clear. Many will use the whole sachet when not required, which means they are injecting a very acidic solution and increasing their risk of vein damage.

Citric acid and ascorbic acid are both supplied. Ascorbic acid is relatively less acidic, and is preferred by some users; however, citric is cheaper to supply. As acids are a non-reusable element of the needle and syringe programme, they are generally the item that clients run out of first, so one of the benefits of supplying is to keep clients in frequent contact.

For further information see the How much citric? video, available via the Exchange Supplies website: http://www.exchangesupplies.org or on Youtube.
Tourniquets

Tourniquets are used to help find the vein for injection. As they are not available through needle exchanges they are often makeshift, but the key message is that they must be removed prior to injecting, otherwise there is a risk that the lack of blood flow will cause the surrounding tissue to die. They should never be shared.

Foil

Foil is used to heat up heroin or crack cocaine which is then ‘chased’. This route of administration is far safer than injecting, so should be encouraged as a harm reduction measure. At the time of writing, foil cannot be legally supplied through needle and syringe programmes (although many do supply it under local arrangements) and there is a drive to get it legalised in the same way as other paraphernalia.

Water

Water has the potential to transmit infections among a group if a communal water source, such as a glass or cup, is used. Injectors may flush out syringes with water immediately after use to ensure that the needle does not become blocked with blood and can be used again if required. If the communal glass or cup is used to do this, the water inevitably becomes contaminated with blood. It is important, therefore, that substance misusers have their own container and source of water.
While it is ideal for all injecting drug users to use a sterile single-use ampoule of water each time, this is not always practical and so they should be given advice on where to source the safest water for injecting.

Below is a list of potential water sources – can you rank them from 1 to 10, with 1 being the safest?

- Unopened ampoule
- Part-used ampoule
- Shared cup
- Cold water from the kitchen tap
- Hot water from a tap
- Bottled water
- Distilled water
- Boiled water
- Puddle water
- Toilet water

Turn to the end of the section for suggested answers.

For further guidance on water safety, take a look at the Water risk poster available online from Exchange Supplies at: [http://www.exchangesupplies.org.uk](http://www.exchangesupplies.org.uk) (enter ‘Water risk’ into the search box).

Sharps bins

The provision and use of sharps bins for the safe disposal and return of used equipment is a key harm reduction message. It protects not only injectors, but also their families and the wider community. Pharmacy staff should never handle loose needle and syringe returns.
3.9 Safer injecting for opiate, crack cocaine or amphetamine users

Advice on safer injecting should be based on ‘best practice’, but where necessary translated into a form that is achievable for the vast majority of injectors in their own everyday settings. So, for example, while many of the risks of injecting may be common, a person who is homeless may have many more problems in translating a simple piece of advice into practice, such as ‘wash your hands before injecting’, than a person who has their own house or flat. Advice might therefore be to ‘wash your hands when you can and try to keep your injecting sites as clean as possible’.

The core messages are the avoidance of direct and indirect sharing of equipment and the need for cleanliness.

Advice on preparation of drugs for injection

Injecting drugs will be less risky if users:

- do not share anything, and mark syringes for easy identification if they need to reuse them
- use sterile injecting equipment for every injection
- wash their hands and injection site with soap and water (or with alcohol hand gel if available) before beginning the preparation process
- prepare their own injection, using their own ‘cooker’, water and filter, draw up into their own needle and syringe and use only the smallest amount of citric or ascorbic acid necessary to dissolve heroin or crack cocaine for injection; do not use lemon juice or vinegar
- prepare on a clean surface that can be disposed of later, such as a newspaper or magazine
- have at least some idea of the likely strength of what is being injected, possibly by smoking a little first
- do not use more than one drug at a time
- do not ‘snowball’ (injecting heroin and crack cocaine together)
- do not inject crushed tablets
- do not lick the needle prior to injection
- have regular breaks from injecting crack cocaine
- where possible, do not inject alone
- know what to do if someone overdoses.

Advice on injecting sites

Injecting crack cocaine is particularly damaging to veins as injections are more frequent, while the anaesthetic effect of cocaine reduces the pain caused by poor injection technique. It also interferes with the healing process by reducing blood flow to the area. General advice should be that using peripheral veins, particularly those in the arms, is likely to be less risky than using deeper veins. People using peripheral veins in the legs and feet should be cautioned to inject more slowly. Advice should be to find several possible injecting sites and rotate them regularly, so allowing veins to rest and recover.
The dangerous practice of using neck veins should be strongly discouraged. This is for a number of reasons, including acute risks, such as hitting the jugular artery instead of the vein, as well as the consequences of ‘minor’ soft tissue infections that can be more problematic than in other locations on the body. In addition, the injector will find it more difficult to see the injecting site and therefore be more reliant on either the sensation, mirrors and/or another person. Other high risk areas, such as the penis and breast, should avoided for similar reasons.

**Femoral injection**

Use of the femoral (groin) veins seems to be increasingly more common, with one third of intravenous drug users in 2008 reporting that they have used this route. This is probably because once found, it can offer a quick and convenient route of venous access. However convenient it may seem, femoral injecting has added risks:

- hitting the femoral artery and suffering arterial stenosis or bleeding to death
- hitting the femoral nerve – extremely painful and can cause serious damage.
- deep vein thrombosis and associated complications, including loss of the limb.

**FIGURE 1 Anatomy of the groin**

For further information on femoral injecting and materials available to discourage injectors from using this route, have a look at the Harm Reduction Works section on femoral injecting; available online at:

http://www.harmreductionworks.org
Advice on injecting technique

Injecting technique, even among long-term injectors, can be strikingly poor. Unsurprisingly, getting or maintaining good access to peripheral veins is a subject that is usually of immense interest to injectors. They will often value the advice of someone they perceive to be an expert, particularly if that advice is couched in ways which make it clear that you are trying to help them make their injections more successful, and therefore more likely that individual veins will function effectively for longer.

Advice should be quite basic and include discussion of:

- intravenous injecting only; subcutaneous and intramuscular routes are dangerous with opiates due to anaerobic infection risks
- cleaning the site thoroughly with soap and water beforehand
- rotating sites and choosing one with no bumps or bruising
- use of the smallest appropriate needle for the injecting site
- use of tourniquets, and the need to release them prior to injecting
- identifying the vein to be injected by sight or touch
- injecting following the line of a vein (towards the heart), rather than from an oblique angle
- using a shallow angle to access the vein
- using a confident stab, rather than repeated tentative ‘fishing’
- injecting slowly and carefully
- not repeatedly flushing blood in and out of the syringe
- putting pressure on the site with a dry tissue after injection to reduce bleeding and bruising.

As mentioned earlier, femoral injection is very risky, so should not be encouraged; but if you know clients are using this route you should be aware of the different injecting advice that they might need.

They should be advised to:

- seek advice from the local specialist services on femoral injecting
- use longer needles; orange 5/8” or blue 1”
- avoid the use of insulin needles in case they break
- get medical help straight away if they notice hot, red, sore or swollen areas, as they could be at risk of deep vein thrombosis, which is common among people who inject into the groin.
3.10 Safer injecting for steroid users

Advice offered to anabolic steroid users is very different as steroids are injected intramuscularly. However, your advice should follow the same principles as outlined above, encouraging good hygiene and explaining that they should never share equipment. Pharmacies providing needle and syringe programmes can make targeted leaflets available to provide harm reduction advice to steroid users.

Advice on preparation of drugs for injection
- Always use sterile injecting equipment, never share.
- Use appropriately sized needles: green for buttocks, blue for thighs and tops of arms; the length needed may vary depending on how lean they are at the time.
- Use the smallest dose of steroids (do not adopt other users’ regimes).

Advice on injection sites
- Large muscles are preferable, such as buttocks or outer thigh, with upper arm being the next best choice.
- Rotate sites and do not use an area where there is a lump.

Advice on injecting technique
- Injection uses the intramuscular route.
- The site should be thoroughly cleaned with soap and water.
- Pinch the area between the finger and thumb, then insert the needle with a jabbing motion at 90 degrees.
- Insert the needle about three-quarters of the way into the muscle; if it does not go in far enough it could cause an abscess; if it goes in too far it may not be easy to remove if it snaps.
- Pull back the plunger; if there is no blood, then slowly inject.
- Remove the needle and apply pressure on the site with a swab; massage the site to disperse the drug.

Other advice for steroid injectors\(^{18}\)
- Spend adequate time on training, nutrition and sleep.
- Limit the length of ‘on cycles’.
- Know the dangers of recreational drug use.
- Be aware of side-effects; at the first sign of them, discontinue use and seek medical advice.
- If drugs are needed to treat the side-effects of steroid use, it means their dose of steroids is too high.
- The GP (and any other health practitioner) should be informed of any anabolic steroid use, so that any health monitoring that is available is taken up as appropriate.
3.11 Drug-related deaths

A drug-related death can be defined as a death where the underlying cause is poisoning, drug use or drug dependence; where any of the substances controlled under the Misuse of Drugs Act 1971 are involved (although alcohol can also often be a factor).  

Although the term ‘drug-related’ may seem straightforward at face value, causes of drug-related death can be broken down into those that are immediate and those that are more long-term.

Immediate causes of drug-related death include:

- overdose (both accidental and deliberate)
- accidental poisoning (particularly among children and opiate naïve adults)
- use of volatile substances, such as solvents and glues
- cardiovascular complications of stimulant use.

Longer-term causes of drug-related death include:

- blood-borne viruses, such as hepatitis C and HIV
- complications of heavy alcohol use
- smoking-related diseases.

In 2008 there were around 1500 drug-related deaths reported by coroners in England, Wales and Northern Ireland, although this figure is likely to be an underestimate as not all coroners reported. Of these, 64 percent were accidental and 69 percent involved opiates alone or in combination with another drug.

Reflective questions

Would you recognise an opiate overdose in one of your clients? What signs would you look for?

What procedures do you have in place to deal with a suspected overdose in your pharmacy?
Overdose

The overwhelming majority of overdose deaths in the UK involve the combined use of depressants, such as heroin, alcohol and benzodiazepines. Injecting heroin is a further factor that greatly increases the potential for overdose (compared with other routes of administration), with heroin being implicated in around 45 percent of all drug-related deaths.

Particular risk factors for fatal overdose are:

- injecting drugs (particularly heroin)
- poly-drug use
- a return to use after recent abstinence (particularly following discharge from prison or following a detoxification programme)
- not being in a treatment programme
- a recent history of non-fatal overdose
- underlying mental health problems
- being in the first two weeks of induction into methadone treatment.

Symptoms of opiate overdose include:

- pinpoint pupils
- respiratory depression
- reduced level of consciousness
- difficult to rouse
- not responding to painful stimuli
- deep snoring
- shallow slow breathing
- blue lips.

Advice on prevention of death from overdose

Overdose is preventable; advice to help minimise risk should include:

- not using opiates with other sedatives, such as alcohol and benzodiazepines
- not injecting heroin and cocaine together (speedballing or snowballing)
- how to put someone into the recovery position – training peers and family members can help save lives
- being aware when tolerance is low, such as after detoxification, a break from injecting or post prison release.

Management of overdose

Many overdose deaths are preventable if simple and appropriate actions are taken by those present. Depressant overdoses usually cause death by respiratory complications, such as blockage of the airway with vomit, respiratory depression or a combination of both.

Accordingly, such deaths can often be prevented by following these steps:

- ensure that the airway is clear
- perform cardiopulmonary resuscitation (CPR) if necessary
- put victim into the recovery position
- call an ambulance.
In the past, drug users have often been reluctant to call an ambulance because of fears that the police would automatically attend. In most areas of England and Wales protocols have now been put in place regarding police attendance at ambulance callouts for overdose. According to these protocols, the police should only attend if the ambulance crew feels they are at risk, or a child is known to be at risk on the premises. These changes make it more likely that an ambulance will be called in an overdose situation, in the knowledge that the police will usually not attend.

Some drug services offer training for injecting drug users and family members on overdose prevention and treatment, including CPR and the recovery position.

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**Exercise 9**

‘Going over’ is a powerful and informative video of real-life overdose stories, which aims to inform substance misusers about the actions to take to prevent overdose and how to deal with someone who has overdosed.

Take a look at the video now; it is available via the Harm Reduction Works website at: [http://www.harmreductionworks.org.uk](http://www.harmreductionworks.org.uk) or is accessible on Youtube: [http://www.youtube.com/watch?v=mmHB1CZf-MU](http://www.youtube.com/watch?v=mmHB1CZf-MU)

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**Supply and administration of naloxone**

Naloxone is a short-acting opiate antagonist and is a specific antidote which rapidly reverses unconsciousness and apnoea.

In 2005 a change to the Prescription Only Medicine (POM) order for naloxone has allowed the medicine to be administered parenterally by anyone for the purpose of saving life in an emergency. It has also opened the way for naloxone to be made available under a patient group direction (PGD) to injecting drug users and family members in various pilots throughout England and Scotland, meaning they have instant access to the drug in case of overdose. This change also means that if a client is showing signs of overdose in the pharmacy, pharmacists should be prepared to administer naloxone.

It is available in pre-filled syringes (and ampoules) and administered at a dose of 0.4 mg (1 mL), repeated at intervals of two to three minutes until the client is rousable and evidence of respiratory depression is corrected. If more than 10 mg is administered in total and there is no further response, the diagnosis of opiate overdose should be reviewed. Although the British National Formulary (BNF) states that the preferred route of administration is intravenous, intramuscular administration is easier and this is how it is administered by paramedics.
Given intramuscularly, naloxone will normally have an effect within two to five minutes but only lasts for five minutes, depending on the size of the overdose and drug taken. It can therefore be used as a short-term measure to preserve life while an ambulance is called.

Treatment with naloxone is only a short-term measure; an ambulance should be called straightaway and the client encouraged to go to hospital. This is especially important in the case of methadone overdose as naloxone is short-acting compared to the half-life of methadone and therefore intravenous infusion may be required to avoid resedation; for example, 48-72 hours of naloxone therapy may be required for a methadone overdose.

**Practice point**

What is the local policy on the supply of naloxone to injecting drug users and their families? Is there a PGD in place?

Does your pharmacy have a supply of naloxone available in case of an emergency and if so, who is trained to administer it?

### 3.12 Health promotion

The pharmacy team is uniquely placed to offer health promotion advice as community pharmacies are easily accessible with long opening hours and have frequent, often daily, contact with a wide range of substance misusers, some of whom may not have any other contact with healthcare services. Much of the health promotion advice and information that you can provide is not specific to substance misusers, so many members of the team will already have the training required to deliver this advice.

Key areas where advice will have a significant impact on health include:

- **Smoking**
  
  There is evidence that most intravenous drug users also smoke, and tobacco is more harmful to long-term health than many illegal substances. If clients are willing, they should be encouraged to follow a smoking cessation programme.

- **Alcohol**
  
  As with smoking, often misusers will also use alcohol. The sedative effect of many drugs is compounded by alcohol and can be especially risky with opiates and benzodiazepines. When alcohol is combined with cocaine, the metabolite cocaethylene is produced which is hepatotoxic and linked to cardiac events, including sudden death. Alcohol also poses a much increased risk of liver disease for people with hepatitis. If clients are keen to reduce their alcohol intake there are various places they can be signposted to for more help.

- **Safe sex**
  
  Safe sexual practices should be promoted to all substance misusers, due to the risk of spreading blood-borne viruses. Screening should be offered for
chlamydia, as well as for hepatitis B and C. Females should be encouraged to have regular smears and to be aware that use of opiates may disguise pregnancy. Condoms are often made available free of charge via needle and syringe programmes.

- **Wound management**
  Unhygienic injecting and dirty equipment are the main causes of infection. Missing the vein with contaminated injections can lead to abscesses, infection and necrosis, and septicaemia. Clients should be encouraged to share their concerns with you, and local antibiotic policies should be followed, with early referrals made as appropriate.

- **Dental health**
  Opiate use is associated with poor dental health. Studies have shown that opiate users have a high prevalence of dental decay, poor periodontal health (gum disease) and a high need for dental treatment. The reasons for this are often put down to the sugar content of prescribed methadone; however, the causes are multifactorial.

  The diet of many drug users will be very poor especially if they have no time, money or facilities to cook. In addition, sugar cravings associated with heroin use lead to snacking on sweet foods. Oral hygiene is often not a priority and development of dental caries is accelerated. Opioids affect the peripheral nervous system causing xerostomia (low saliva) which increases the risk of tooth decay. The analgesic effect of opioids can mask the early symptoms of dental diseases, such as abscesses.

  Clients may blame their methadone treatment for their poor oral health but, generally, it is the client’s increased self-awareness of the problem that increases when they start treatment. In addition, methadone has a lower analgesic strength than heroin and therefore methadone use can coincide with increased dental pain.

  Sheridan *et al* highlighted the important role of a community pharmacist in giving oral hygiene advice and being a source of dental referral. The importance of good access to dental health must be stressed; some drug treatment agencies cultivate referral links with NHS dental health providers. A simple course of dental care can have a remarkable effect on the person’s self-esteem and move them a step closer to social inclusion. There are reports of people stabilised on substitution programmes returning to heroin use due to toothache that has not been treated. Access to dental services is often difficult for opioid users. Some of the main barriers are fear, expense, lack of information and service provider attitudes. It is important in shared care that services are working together to plan and provide referral pathways to dental care.

  Simple advice, such as drinking water after supervised consumption, chewing sugar-free gum and signposting to dental services can all improve dental health.
Summary

Harm reduction has expanded significantly over the last few years, from a basic needle exchange function to prevent the spread of HIV, to a wide range of interventions to improve the health and well-being of substance misusers, whether or not they have chosen to engage with drug treatment services. While levels of HIV are low in the UK (but still of concern), the rise of hepatitis C among injecting drug users means that harm reduction measures are as important as ever and the key to them being effective is easy access.

Community pharmacy is in a unique position to provide effective harm reduction support due to the availability of general healthcare, long opening hours and accessibility to all those people who do not have contact with any other health professionals or any other drug services.

Pharmacists and their teams have a role to play in offering needle and syringe programmes, screening and immunisation, as well as in educating clients on the risks of injecting and overdose, and advising on general healthcare issues.

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<thead>
<tr>
<th>Intended outcomes</th>
<th>Can you?</th>
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<tr>
<td><strong>By the end of this section you should be able to:</strong></td>
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<tr>
<td>► define harm reduction and outline its principles</td>
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<tr>
<td>► understand the risks and complications of injecting</td>
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<tr>
<td>► provide advice on safer injecting practice</td>
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<tr>
<td>► recognise the signs and symptoms of opiate overdose and be able to manage it in a pharmacy setting</td>
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<tr>
<td>► describe the health promotion interventions that pharmacy can provide to improve the health of substance misusers.</td>
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</table>
**Suggested answers**

**Exercise 6 (page 48)**

**Why does treatment for hepatitis C work for some people and not for others?**

There are a number of non-adjustable factors that may affect the outcome of treatment, as listed below.

- **Virus genotype**: types 1, 4, 5, and 6 are less responsive than types 2 and 3.
- **Viral load**: this is a significant determinant of treatment outcome.
- **Gender and ethnicity**: treatment tends to be less effective with men than with women, and black and Hispanic people tend to respond less frequently than white and Asian people.
- **Degree of hepatic fibrosis and cirrhosis**: treatment tends to be more effective in people where disease is not as advanced.
- **Age**: treatment is less effective in older people; after 40 years of age, the likelihood of achieving ‘sustained virological response’ (ie, where the hepatitis C virus is undetectable in blood six months after treatment) diminishes by about five percent per decade.

**What other healthcare advice can you provide to help them manage their condition?**

Advise the person to stop drinking alcohol. Alcohol is the most important predictor of disease progression, and even modest amounts worsen the prognosis. Reducing alcohol intake, although not ideal, is better than maintaining high consumption. However, in many cases it is almost impossible for people that have been dependent on alcohol to reduce consumption to safe levels.

Other advice should include:

- **Lose weight** (as obesity increases the risk of non-alcoholic fatty liver disease and progression to cirrhosis)
- **Stop smoking** (as smoking can increase disease progression)
- **Practise safe sex**
- **Avoid sharing injecting paraphernalia, razors or toothbrushes.**

**Which organisations can you signpost them to?**

You could signpost to any local hepatitis C support group or to a national organisation such as the Hepatitis C Trust (http://www.hepctrust.org.uk) or the British Liver Trust (http://www.britishlivertrust.org.uk).
Unopened ampoule

Boiled water

For injectors who do not have an ampoule of water for injections they should be advised to use boiled water from a kettle. Although it is true that to guarantee that even the most resistant pathogens are killed the water should be boiled for several minutes, in practice the additional benefits are few, and advice to boil water in a pan is problematic because:

- the water takes time to cool, and could become contaminated during cooling
- the pan used to boil the water (or the pan’s lid) could be contaminated; and
- the advice is unlikely to be followed, and there is a risk that injectors will take the view that if they can’t follow the advice, then they might as well not bother doing anything because they are taking a risk anyway.

Cold water from the kitchen tap

The kitchen tap is usually fed from the rising main which, in the UK, is usually virtually or completely free from bacteria.

Water from bathroom taps may have been stored in a cold water tank in the roof where it can become much more contaminated with bacteria. This is not a problem if you are drinking it, as the acid of the stomach is able to kill low levels of bacteria without a problem, but it is not so good if the water is being injected.

Bottled water

The bacteria count in bottled water is much higher than in tap water, varies according to the temperature at which it is stored and can be very high if someone has drunk from the bottle.

Distilled water

Distilled water is boiled and then condensed to ensure it is free of all minerals; however, distilled water is usually intended for use in machinery where there is no requirement for the water to be clean in terms of bacteria count.
**6 Hot water from a tap**

The water in a domestic hot water tank is not hot enough to kill all bacteria. If the tank has been warmed and cooled, the bacteria count can grow.

**7 Toilet water**

It could be argued that pointing out the dangers of drawing water out of a toilet is stating the obvious, but having it there — and not at the bottom of the list — highlights how dangerous the following options are.

**8 Puddle water**

As with toilet water this is included to highlight the serious nature of the risks associated with water that could be contaminated.

The advice to catch rain water instead was suggested by homeless drug users, who described it as a harm reduction strategy they had developed.

**9 Part-used ampoules**

As ampoules of water for injections ‘feel’ medical, safe and sterile, injectors will sometimes choose to take water from a part-used ampoule. However, this may already have been contaminated by the used equipment of another injecting drug user. Storage of their own water in warm conditions, such as a pocket, may also increase contamination.

**10 Shared cup**

This is the most dangerous option due to the size of the vessel and the chance that it will have been shared by many people.

Information source: Exchange Supplies website [http://www.exchangesupplies.org](http://www.exchangesupplies.org)
References


Section 4

Reducing drug-related harm: psychosocial and pharmacological interventions

### Objectives

On completion of this section you should be able to:

- understand assessment and care planning for substance misusers
- outline the psychosocial treatment options for substance misuse
- explain the pharmacological treatment options for opioid users for maintenance, detoxification and relapse prevention
- describe the treatment options for stimulant and benzodiazepine users.

There is evidence that effective treatment of substance misuse has a positive outcome not only for the individual, but for their family and the wider community, reducing crime and risks to health. Between 2004 and 2009, government funding to treat substance misuse increased by £100 million to £581 million. Over that period, the number of adults in effective treatment increased from 134,000 to 195,000 and the number of problem drug users completing their treatment free from dependency rose from 6,000 to 15,000.¹

Treatment of substance misuse in the UK is carried out in line with the Department of Health’s guidelines: *Drug misuse and dependence – UK guidelines on clinical management (2007)*, otherwise known as the ‘Orange book’.² While the guidelines have no statutory status, if clinicians choose to work outside the framework of the guidance they would need to demonstrate a rationale for their actions.

The guidelines replace the previous 1999 guidelines and were developed concurrently with the following NICE guidance on substance misuse:

- NICE Technology appraisal TA114: *Methadone and buprenorphine for the management of opioid dependence.* January 2007

### 4.1 Assessment

The Department of Health’s *Drug misuse and dependence – UK guidelines on clinical management (2007)*² state that effective assessment is essential to the continuing care of clients with substance-related problems and that it is vital for all multidisciplinary team members to have assessment skills. The process of carrying out an assessment of a client can help them to engage with the suggested treatment and begin the process of change.
The aims of assessment are to:\(^2\)
- treat any acute problems
- confirm drug usage and degree of dependence
- identify physical, mental health or social problems
- identify risky behaviour
- determine desire to change
- determine the need for substitute medication
- determine any risk to dependent children or vulnerable adults, if appropriate
- assess competency to consent to treatment in young people or adults with mental health problems.

**Full assessment procedure\(^2,3,4\)**

An example of the assessment procedure is outlined below:

**Drug history**

One of the aims of assessment is to gather specific and accurate information about the client’s past and current drug-taking behaviour and to establish the relevance of that information to the client’s life as a whole. It is important to find out why the client is seeking treatment and whether a particular event has occurred that has precipitated their attendance. Previous attempts at seeking help or treatment should be investigated. It is also important to establish information relating to the first exposure to drug-taking and patterns thereafter, eventually leading up to current patterns of drug use.

The type of information needed would include the types of drugs used and the method and route of administration. Complications and consequences of drug use should be discussed, such as physical illness, mental illness, social problems, occupational problems and legal problems. There are various questionnaires used to find out the drug history, some of which have a scoring system to assess the severity of the drug-related problem, for example, the Christo inventory for substance misuse services (CISS). These questionnaires are useful as they can be revisited at a later date to quantify the impact of treatment.

**Life history**

This should cover family history, in particular drug use of family members; early history, childhood information, schooling and employment history. The client’s personality before drug-taking started should be explored. Marital and psychosexual history is important, in addition to menstrual history, as opiates cause amenorrhoea and therefore early pregnancy is difficult to diagnose. The history should include details of any physical or mental health problems. Residential status and home circumstances can be included in the life history; however, this is included in a social assessment. There are various formats available for recording the life history assessment.

**Social assessment**

This includes family situation, particularly if the client has children; accommodation situation, including who the client is living with; employment details; financial situation, especially if they are in debt; social functioning, for
example, how the day is spent, and social networks, for example, whether they have family and friends to support them, and the extent of isolation.

**Safeguarding children**

*Working together to safeguard children* (2010) sets out how organisations and individuals should work together to safeguard and promote the welfare of children and young people in accordance with the Children Act 1989 and the Children Act 2004. The key principle of the acts is that the well-being of the child is of paramount importance. The acts state that parents should normally be responsible for their children. This implies that authorities should not separate the child from the parent unless it is clearly in the interests of the child to do so. Each local authority is required to have a Local Safeguarding Children Board to promote, instigate and monitor joint policies in child protection work.

In light of the two Advisory Council on the Misuse of Drugs reports, *Hidden Harm, three years on: realities, challenges and opportunities* (2007) and *Pathways to problems* (2006) you may want to complete the CPPE *Safeguarding children* open learning programme and online assessment, available at: http://www.cppe.ac.uk/portfolio

**Practice point**

Find out your local arrangements for safeguarding children and who are your key contacts in health and social care organisations.

**Physical examination**

The physical examination is an important part of the assessment process as it helps to determine the health of the drug user, confirm the history and determine the existence of any complications of drug use. Pharmacists can play a role in the physical assessment of clients, particularly as they make contact with clients on a regular basis. They can look out for general health signs and symptoms, as well as any signs of intoxication or withdrawal. Examples of the general physical signs to assess in the examination include:

- general appearance – weight loss; hygiene
- gait – unsteady gait, associated with slurred speech, suggesting intoxication and sedative use
- eyes – watery eyes associated with opiate withdrawal; pin-point pupils suggesting recent opiate use; dilated pupils suggesting opiate withdrawal, stimulant use, hallucinogen use or anticholinergic drug use; nystagmus indicating intoxication of sedative hypnotics and red eye which can indicate cannabis or solvent misuse
- nose – runny nose suggests opiate withdrawal; red rash around the nose indicates solvent sniffing; congestion of nasal mucosa can indicate snorting of drugs; ulceration of nasal septum can suggest cocaine or heroin snorting
- mouth – opiate-dependent clients have a high incidence of poor dental hygiene.

(See Section 3 – Health promotion – for further details.)

Other physical assessments include:
- skin (including soft tissue injuries for injecting drug users)
- cardiovascular system
- respiratory system
- abdomen
- neuromuscular system
- lymphatic system.

**Mental state examination**

This is an essential component to the assessment process. It includes examination of psychiatric problems that may co-exist with drug and alcohol use, for example, increased risk of suicide and self-harm; as well as assessing the effects of the psychoactive component of drug use, for example, hallucinations, depression and anxiety. The assessment may also cover general behaviour, mood, abnormal experiences and beliefs and cognitive state.

**Psychological assessment**

The psychological assessment of the client is designed to identify suitable psychological interventions. It involves personality testing, using standard inventories to measure cognitive state, personality and social functioning. The client’s motivation to make changes in drug use should also be assessed.

**Special investigations**

It is helpful to assess the general health status of a client and the harmful effects of the drug used and their lifestyle. This is carried out by laboratory tests: hepatitis, creatinine, haemoglobin, liver function, Wassermann reaction (for syphilis), HIV and HCV antibody and bacteriological.

**Detection of drug use**

Carrying out tests which can help with the diagnosis and monitoring of clients provides an independent, objective source of information and is essential prior to prescribing for legal reasons. Urine or oral fluid screening can be used to confirm or deny what the client reports to have taken. However, it is important to note that these tests have their limitations, including accuracy of results. The main methods of testing that are available are: urine testing, which can be laboratory tests or ‘on the spot’ testing; blood sampling; oral fluid tests and hair sampling.

**Urine testing** is the most commonly used form of testing because it is relatively cheap, samples are readily obtainable, the concentration of drug in the urine is higher than that in the blood, and drugs can be detected for longer after use, compared to blood. ‘On the spot’ urine testing provides a result after a few minutes, whereas laboratory testing may require a wait, although more detailed
information can be obtained. Laboratory test results may also be permissible in a court of law.

**Oral fluid testing** can be easily observed without embarrassment for the client or staff and there is less likelihood of fake samples being used as can happen with urine testing. Oral fluid testing is gradually being used more commonly as there is the added advantage of obtaining quantitative information, ie, concentrations of the drug. However, this is a costly form of testing.

**Hair sampling** can show the long-term history of drug-taking – hair grows at a constant rate, so the concentration of drugs along the hair can be measured. The results can provide information about periods of abstinence; however, this information is limited by the length of the hair being tested and the sampling process is very expensive.

### 4.2 Care planning

Once the client has been assessed, planning and goal-setting should take place; this must be realistic and created in partnership with the client. The overall aim of treatment should be broad, with the components and steps of the treatment plan forming the individual goals. The goals should be documented and regularly reviewed during the period of treatment. The plan would normally cover the client’s needs in one or more of the following areas:

- drug and alcohol use
- physical and psychological health
- criminal involvement
- social functioning.

As it is unlikely that one professional will be able to meet all of the client’s needs, the shared care approach is used, with all those involved named on the care plan.

### 4.3 Psychosocial interventions

Pharmacological treatment is only one component of treatment. There are various non-pharmacological interventions which aim to produce fundamental long-term changes. For cocaine and cannabis misusers, there is no effective pharmacological treatment so evidence-based psychosocial interventions are the mainstay of treatment.

**Formal psychosocial interventions**

Formal psychosocial interventions are recognised by NICE as having a high quality evidence base and have been shown, on average, to be more likely to have significant clinical benefit.

**Psychotherapy**

Psychotherapy can be defined as treatment which involves communication between client and therapist which aims to modify or help alleviate the client’s ‘condition’. It has been shown to be of particular use to clients with mental health
problems. Any encounter with the client and multidisciplinary team member provides an opportunity for psychotherapy. In order to maximise treatment outcomes it is valuable to have an integrated approach to the treatment of drug dependence, that incorporates psychotherapy.

**Social behaviour and network therapy (SBNT) (including family therapy and behavioural couples therapy).**

There is evidence that involving drug-free partners or other family members in therapy sessions can have significant benefits for the individual as the support of their social network is a key factor in helping them to successfully remain drug-free.

**Brief interventions**

Brief interventions are short conversations of up to 30 minutes which aim to change behaviour by assessing a client’s commitment to change and supporting this with the provision of advice, literature and signposting as appropriate. NICE advises that brief interventions should be offered opportunistically to people with limited contact with drug services, in particular anyone using needle exchange services. Pharmacists are well placed to undertake brief interventions as many already offer them for other areas of practice, such as smoking cessation or weight management.

The CPPE local solutions programme, Brief interventions, considers these skills in more detail (available from: [http://www.cppe.ac.uk/localsolutions](http://www.cppe.ac.uk/localsolutions)).

**Contingency management**

Contingency management is the practice of offering incentives in return for changed behaviour. There is evidence that offering incentives to people on opiate maintenance programmes can reduce illegal drug use and promote engagement with services. To be successful, incentives must be provided consistently and be agreed and wanted by the client; for example, some may value vouchers for goods, while others would prefer the opportunity to take their methadone dose home.

**Self-help approaches**

All clients should be routinely provided with information on self-help groups, such as Narcotics Anonymous, or other groups based on the 12 step principles. If they then express an interest in attending a meeting, facilitating their initial contact with the group has been shown to have further benefits.

**12 step principles**

The 12 step principles are a set of guiding principles offering a course of action for recovery from many types of addiction. Originally developed by Alcoholics Anonymous in the 1930s, they have been adapted and adopted by many other self-help groups. The principles are incorporated into daily life to help the individual to rebuild their life with self-esteem and self-confidence.
Other psychosocial interventions

We have listed other interventions that have been used by keyworkers. Although there is less evidence to support them, this may be due to the small numbers using them and the lack of research into them, rather than proof of their ineffectiveness.1

- **Drug counselling**
  This entails assessing the specific needs of the client, providing an opportunity for them to talk about their problems. Non-directive or ‘Rogerian’ counselling is client-centred and helps to engage the client in a non-judgmental way.10 Counselling sessions can address a range of issues, including treatment options, lifestyle advice and support and liaison with other services on behalf of the client.

- **Motivational interviewing**
  Motivational interviewing is a style of counselling which brings about behavioural changes in an individual by exploring and resolving ambivalence. The principles can be applied in any setting where behavioural change is required to improve health. In 1991 Miller and Rollnick11 identified five basic motivational principles, which in relation to specific practitioner activity are: ‘express empathy, develop discrepancy, avoid argument, roll with resistance and support self-efficacy’.

- **Cognitive behavioural therapy (mapping techniques)**
  Cognitive behavioural therapy (CBT) is a therapeutic approach that is used for the treatment of various mental illnesses, such as depression, anxiety and schizophrenia.12 The principles can be applied to substance misuse and in particular relapse prevention.13 The therapy helps clients to recognise their risky situations, behaviours, emotions and beliefs and to learn strategies to manage and cope with them. It is particularly useful for dual diagnosis clients.

- **Complementary and alternative medicine**
  Complementary and alternative medicine is defined as ‘diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole, by satisfying a demand not met by orthodoxy or by diversifying the conceptual frameworks of medicine’.14 Examples of complementary and alternative therapies used for substance dependence are acupuncture, biofeedback, electrostimulation, herbal medicine, Indian head massage and hypnotherapy. These therapies are increasingly popular; however, there is insufficient supporting data to determine their exact role in substance misuse management.

- **Sports and skills-based interventions**
  Sports and skills-based interventions can be used as part of a structured programme of interventions based on sports and other practical skills and can help users become more engaged with their treatment, improving health and well-being.2 These interventions are of particular benefit as part of a system of aftercare, which is vital for relapse prevention.
4.4 Pharmacological treatment of opioid users

There are two main strategies used in the treatment of drug users:

- substitute prescribing for maintenance
- detoxification

While detoxification would be the ideal immediate treatment goal, few clients can manage a rapid abstinence, and most require a longer period of time on prescribed medication. With this in mind substitute prescribing is recognised as an effective harm reduction intervention which may lead in the long term to detoxification, although the process may take several years.

It is important to tailor treatment to the individual needs of the client. When considering substitute prescribing, dose reduction and detoxification (including in maintenance clients), the intervention should be shaped by a realistic appraisal of jointly agreed treatment goals and outcomes between the client, the prescriber and other members involved in the client’s care.

4.5 Substitute prescribing for maintenance

The aims of maintenance treatment are to assist drug users to moderate and eventually discontinue their drug use while, in the meantime, helping them minimise the harm their drug use causes to themselves and the community.

The objectives of treatment are to:

- assist the client to improve their physical and mental health, until with appropriate care and support, he or she can achieve a drug-free life
- reduce the use of illegal or non-prescribed drugs by the individual
- reduce the dangers associated with illegal drug use, particularly the risk of HIV, hepatitis B and C, and other infections from injecting and sharing paraphernalia (reduce injecting and the sharing of equipment)
- reduce the duration of episodes of illegal drug use
- reduce the chance of future lapse to illegal drug use
- reduce the need for criminal activity to finance illegal drug use
- reduce the risk of prescribed drugs being diverted onto the illegal drug market
- stabilise the client where appropriate on a substitute medication to alleviate withdrawal symptoms
- improve overall personal, social and family functioning.

Many of these aims can be achieved by engaging and retaining service users in treatment. This also has the effect of reducing drug-related deaths.
Methadone

Methadone is a synthetic opiate agonist. It has a half-life of 24-36 hours. It is available in various forms:

- methadone oral solution 1 mg in 1 mL, or 5 mg in 1 mL
- methadone injection 10 mg in 1 mL or 2 mL; 25 mg in 1 mL; or 50 mg in 1 mL (usually only prescribed in specialist settings),
- methadone 5 mg tablets. Tablets are not prescribed first line as there are reports of them being crushed and injected; however, they are increasingly prescribed when clients are travelling in order to avoid transporting large volumes of methadone and to overcome the changes to hand luggage liquid restrictions. They may also be used for clients who vomit when large volumes of methadone liquid are taken.

The use of methadone is based on the following properties:

- it has good cross-tolerance with other opiates – methadone provides relief from the withdrawal effects of stopping heroin
- it is well absorbed if taken orally
- it has a long half-life, so it can be taken once a day – it also allows the opiate user to switch from injecting a short-acting drug frequently, to taking it orally once a day
- it does not damage any major organs even in high dose/long-term use.

Methadone does not cause:

- significant lack of co-ordination
- slurred speech
- congenital abnormalities in the newborn
- reduction in cognitive ability, as seen with alcohol and benzodiazepine use.

Exercise 10

Before reading on, try to answer the questions below.

a) What are the side-effects of methadone?
b) What key points would you want to explain to a client who has just started taking methadone?

There is now substantial evidence as to the effectiveness of methadone maintenance in meeting the previously listed treatment goals; there is also some evidence as to the factors likely to achieve optimal treatment, which can be summarised as follows: 15-20

**Optimum dosing**

There is a consistent finding that there is a greater benefit from maintaining individuals on a daily dose of methadone of between 60 mg and 120 mg. This has the effect of improving retention in treatment and so allowing treatment aims to be met. 20, 21

Daily doses outside the recommended range may need to be prescribed. This is because the blood levels reached after the same dose of methadone varies widely among individuals. Other relevant factors affecting the dose prescribed include the client’s subjective experiences, drug interactions, and their medical or psychological condition.

**Flexible dosing and client self-regulation**

Feedback from methadone treatment service users suggests that a flexible response to individual needs with regard to dosing is very important. In one study, 20 the majority of users identified mutual consent as their preferred option for deciding methadone dose levels, and imposition by treatment staff as their least. The client/treatment worker relationship can be threatened by disagreement over methadone dosage levels, which may undermine treatment effectiveness. Evidence also suggests that clients do not generally ask for excessive amounts.

**Supervised consumption of methadone**

Current guidance is that where appropriate, the consumption of methadone should be supervised for about the first three months for new clients on methadone (this may be impractical if they are employed or live in a rural area). A longer period of six months has been recommended by the Advisory Council on the Misuse of Drugs; however, the decision should be based on the stability and needs of the individual client and made by the multidisciplinary team. The ‘Orange book’ also suggests that these arrangements should be relaxed if the prescriber is satisfied that compliance will be maintained. The relaxation of supervision can
allow clients to further progress with their overall treatment, but should only be done where there is good reason to believe compliance will be maintained.\textsuperscript{2}

Although there is no available evidence showing the importance of supervised consumption with regards to clinical outcomes, community pharmacy-based supervised consumption of methadone has played an important role in developing shared care services, reducing drug-related deaths and improving access to treatment. It should be seen as a positive interaction between client and healthcare professional, rather than seen by the client as a punishment, although most clients see it as a necessary evil.\textsuperscript{22}

\textbf{Methadone – getting the dose right}\textsuperscript{1}

Prescribing should only be initiated after assessment and as part of a multidisciplinary team approach. Ideally prescribers and clients are partners in care. When prescribing is initiated there should be a broad agreement between prescribers and clients on the short and longer-term goals of such treatment. Pharmacists have an important role to play in working with clients and prescribers with a view to monitoring and ensuring appropriate prescribing.

During initiation, it can take at least five to seven days for the full effect of the drug to be experienced and for steady-state plasma levels to be reached. At this time prescribers need to balance the risk of withdrawal with the risk of overdose, to get an effective dose.

The initial daily dose of methadone will usually be in the range of 10-30 mg; however, if tolerance is low or uncertain, a starting dose of 10-20 mg is recommended. An assessment can be made two to four hours after the initial dose is given, with a further 10-20 mg prescribed if necessary. Care is required if a starting dose of greater than 30 mg is prescribed.

If a high tolerance has been unequivocally established by using a tolerance testing process with the client, the initial dose will be in the range 25-40 mg. A subsequent dose of up to 30 mg may follow on reassessment four hours later, depending on the severity of withdrawal. The cumulative effects of methadone must be considered.

\textbf{In the first two weeks of methadone treatment, clients are at particular risk of overdose.} This risk is enhanced by the use of alcohol, benzodiazepines or heroin.

Clients should be given information about potential risks when initiating treatment. After the initial dose clients should be reviewed regularly (every four to seven days) and if appropriate given dose increments of between 5-10 mg until a stable dose is attained. The client is the best person to ascertain when this has been reached. Increments greater than 10 mg may be considered if a client’s drug use clearly indicates under-dosing.

The ‘Orange book’ guidelines recommend that when increasing the dose over the first week, the incremental increase for one day should be no more than 5-10 mg. The total increase over the first week should be no more than 30 mg above the starting dose. It is recommended that subsequent increases should not exceed 10 mg per week, although experienced clinicians may use more. Stabilisation is usually achieved within six weeks, but it may take longer. For most clients this will be on a dose of 60-120 mg daily. Once stabilised on a dose of methadone a client should be maintained on that dose. Any dose reduction programme should only be
considered if appropriate and at the client’s request. Early curtailment of methadone treatment or enforced reductions produces very poor outcomes after treatment. Longer stays in methadone maintenance are associated with better outcomes. 18

Practice point

Think about the clients who use your pharmacy to access methadone maintenance and compare the different doses they have been receiving and the duration of their treatment.

Methadone – safety

A methadone dose as low as 30 mg may be fatal in a non-tolerant adult and a dose of 5 mg may be fatal to a child. At the initiation of prescribing pharmacists should provide the client with information about:

- taking responsibility for their medication (risk of overdose in non-tolerant adults)
- safe storage of medication (risk of overdose in children)
- risk of overdose when mixing drugs (especially with alcohol and benzodiazepines)
- methadone effects/side-effects.

Methadone – pregnancy

Opiate substitute prescribing may occur at any time in pregnancy 2 and can be an effective way to encourage the client to engage with treatment, with less risk of harm to the foetus than uncontrolled substance misuse. Methadone maintenance treatment, together with comprehensive antenatal care, can result in a significant improvement in maternal and neonatal outcomes, such as longer pregnancy and fewer complications. Increased doses of methadone may be required in the third trimester due to changes in the volume of distribution and weight gain. In the late stages of pregnancy division of daily doses can be an option to overcome the requirement of increasing the doses to deal with the increased volume of distribution and renal clearance. 2

Methadone – missed doses

If a client misses three consecutive days of methadone you should contact the prescriber before dispensing the dose on the fourth day. The client may need to be reassessed due to the loss of tolerance. The client may then be restarted on their existing or lower dose and if appropriate, tolerance tested again.

You should be aware of your local policy on missed doses – while the national guidelines state that three missed doses requires referral back to the prescriber, some local policies vary and use a two or four day rule.

When prescribing controlled drugs on instalment prescriptions if a client fails to collect an instalment on a particular day, the remainder of the controlled drug medication can be supplied, providing the specified wording given by the Home
Office is stated on the prescription. (For more information on the wording, see Section 5, page 118.)

Methadone – drug interactions

**Exercise 11**

Think about some of the potentially hazardous drug interactions with methadone and complete the right-hand column of the table below.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Hazardous interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td></td>
</tr>
<tr>
<td>Antidepressants</td>
<td></td>
</tr>
<tr>
<td>Antiepileptics</td>
<td></td>
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<tr>
<td>Antihistamines</td>
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<tr>
<td>Antipsychotics</td>
<td></td>
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<tr>
<td>Atomoxetine</td>
<td></td>
</tr>
<tr>
<td>Sodium oxybate</td>
<td></td>
</tr>
<tr>
<td>Voriconazole</td>
<td></td>
</tr>
</tbody>
</table>

*Turn to the end of the section for suggested answers.*

**Other risks of methadone**

There is some evidence that methadone can prolong the QT interval, especially at doses over 100 mg. Whether an ECG is carried out prior to initiation is based on individual risk assessment; however, the MHRA recommends monitoring for clients who are on a daily dose over 100 mg or clients who have other risk factors. Cocaine can also have an acute effect on QT interval.
Buprenorphine

Buprenorphine is a semi-synthetic opioid with a duration of action of up to 12 hours at low doses (2 to 4 mg) and up to 48-72 hours for high doses (16 to 32 mg). Buprenorphine sublingual tablets are available in 400 micrograms, 2 mg and 8 mg strengths. The tablets are administered sublingually because it has poor oral bio-availability (inactivated by gastric acid and high first-pass metabolism). Buprenorphine is a partial opiate agonist; it blocks the effect of any other opiate administered at the same time.

Where opioid dependence is being treated, buprenorphine should be dispensed as the licensed product. At the time of writing, Subutex and generic buprenorphine tablets are both licensed forms in the UK for the management of opioid dependence. Low-dose buprenorphine (Temgesic) is licensed for pain relief only and is available as sublingual tablets in two strengths – 200 micrograms and 400 micrograms; so, care is required when prescribing and dispensing buprenorphine.

Buprenorphine use is supported by evidence, which suggests that it exhibits comparable efficacy to methadone as a substitute medication when used in equivalent doses (when comparing efficacy, 12-16 mg of buprenorphine is approximately as effective as 50-80 mg of methadone in reducing heroin use and retaining clients in treatment). As with methadone, buprenorphine should be prescribed after assessment, as part of a multidisciplinary team approach, in adequate doses (8-16 mg) and supported by a programme of psychological and social support.\(^{16,25}\)

Exercise 12

Before reading on, consider the question below.

a) What are the side-effects of buprenorphine?

b) What key points would you want to get across to a client starting buprenorphine?

Turn to the end of the section for suggested answers.
**Buprenorphine – naloxone (Suboxone)**

Suboxone, a fixed ratio presentation of buprenorphine and naloxone (2 mg/0.5 mg or 8 mg/2 mg) sublingual tablets received a licence for the treatment of opioid dependency in 2006. The dose used is the same as for buprenorphine.

The rationale for the combination is that taken sublingually, as intended, the naloxone has very little bioavailability; however, when injected the bioavailability is high, precipitating withdrawal in an opiate-dependent individual. This deterrent to misuse may be an advantage where an individual or a locality has a known high incidence of buprenorphine being misused by injection. However, the evidence that this formulation is effective at preventing misuse is not strong and research into the area is lacking, so its introduction onto the UK market has been limited.

**Buprenorphine – getting the right dose**

Before buprenorphine is prescribed, clients should be informed that they may experience withdrawal symptoms in their first two days of taking the drug, especially if they have not allowed sufficient time to clear any opiates that they were previously taking. This is due to the partial agonist effect and pharmacists may be able to help clients by explaining the reasons for this. If the clients are taking methadone then, before starting buprenorphine, their methadone dose should be reduced to 30 mg. The first dose of buprenorphine should be administered at least eight hours after their last use of heroin, or 24 to 36 hours after their last use of methadone. The client should preferentially be experiencing mild withdrawal symptoms to reduce the risk of precipitated withdrawal, which occurs as a result of buprenorphine displacing other opiates at receptor sites. Symptoms are typically experienced one to three hours after the first buprenorphine dose and will subside after four to six hours. If this occurs, clients should be reassured and asked to take symptomatic medication as appropriate (see below for ‘Prescribing for detoxification’).

A further dose of buprenorphine should not be taken until the withdrawal symptoms have subsided. Clients should also be warned or advised not to use any other opioids, for example, heroin/methadone to relieve the withdrawal symptoms, as this is unlikely to work and will further delay the chances of stabilising on the buprenorphine.

A first dose of 4 mg buprenorphine is generally recommended, but starting daily doses of between 4 mg and 8 mg can be used. The dose can then be increased by 4 mg daily until the client is stable. Adequate doses of 12-24 mg daily should be prescribed; the maximum daily dose is 32 mg. Once on a stable dose the same principles apply as for methadone, regarding maintenance or reduction of dose. Starting doses are higher and titration more rapid than is recommended or licensed, in the BNF. The Royal College of General Practitioners guidelines advocate the higher doses and more rapid titration, as this has been found to be safe and is more successful at retaining clients in treatment.

**Buprenorphine – missed doses**

If a client has missed three consecutive days of buprenorphine then, as with methadone, they should be referred back to the prescriber for reassessment. If the client has returned to opiate use then the process of initiation of buprenorphine will be started again. However, if the client has not returned to opiate use, the prescriber may restart the same dose as the longer half-life and partial antagonist effect means that the drug has a higher level of safety than methadone and there is very little risk of overdose. (See Section 5, page 118 – for further information on instalment prescribing information.)
**Buprenorphine and liver disease**

Buprenorphine is metabolised by the liver and the activity of buprenorphine may be increased and/or extended in individuals with impaired hepatic function. Buprenorphine appears to be safe to use in clients with hepatitis C infection where the client has normal liver function and no evidence of cirrhosis. However, there have been reports of deterioration in liver function in people with pre-existing liver disease (e.g., hepatitis B or C infection) who inject their buprenorphine tablets or take an overdose of buprenorphine. Liver function should be monitored before and during buprenorphine treatment. 25

**Buprenorphine and pregnancy**

While methadone is currently the best known substitute pharmacotherapy in pregnancy and will usually be the first choice, recent experience with buprenorphine is encouraging. As a result, clinicians are increasingly continuing buprenorphine with clients who are doing well on established treatment, despite the fact that it is unlicensed for this use. Evidence so far suggests that the neonatal withdrawal syndrome tends to be less severe when compared to methadone. 26 However, it is important to note that due to its partial agonist action, buprenorphine may interfere with opioid analgesia in labour.

**Buprenorphine and drug interactions** 21, 23

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**Exercise 13**

Think about some of the potentially hazardous drug interactions with buprenorphine and complete the right-hand column of the table below.

<table>
<thead>
<tr>
<th>Drug</th>
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<td></td>
</tr>
<tr>
<td>Ketoconazole</td>
<td></td>
</tr>
<tr>
<td>Sodium oxybate</td>
<td></td>
</tr>
</tbody>
</table>

*Buprenorphine appears to be safe to use in clients with hepatitis C infection where the client has normal liver function and no evidence of cirrhosis.*
Crushing buprenorphine

Some specialist substance misuse services may request that the tablets are crushed prior to administration for those clients where diversion is suspected or where a high dose means an unacceptably long waiting time for tablets to dissolve. Crushing buprenorphine is outside of the manufacturer’s marketing authorisation and is therefore unlicensed, so if you are asked to crush tablets you should be sure that a protocol is in place and that the client is informed of the risks and the benefits of crushing. A pharmacist may assume some liability for the supply of a product outside licensed indications and should ensure that their indemnity insurance covers such activity. For community pharmacists the National Pharmacy Association (NPA) will indemnify NPA members involved in the provision of a crushed buprenorphine service, provided they comply with their defined protocol.

More information on crushing buprenorphine (including advice on how to carry out the process) is available in an article in the resource library of the Substance Misuse Management in General Practice website. Visit their website at: http://www.smmgp.org.uk and type ‘crushing buprenorphine’ into their search box.

Practice point

Have you been asked to crush buprenorphine tablets?
If so, are you aware of the local protocol with regard to crushing of buprenorphine tablets and are you sure you have indemnity cover to carry out this task?

Choice of buprenorphine or methadone?

High-dose methadone maintenance still remains the gold standard for harm reduction; however, with similar outcomes and a growing evidence base, the choice as to which medication is used should be made in consultation with each client, after considering their relative merits. The following points may be considered:

- client choice – some clients have a negative image of methadone and do not want to take it, while others want the antagonist properties of buprenorphine to stop them using on top
- high-dose methadone is still the most effective medication for harm reduction
- withdrawal from buprenorphine appears to be easier than from methadone
- the transition from buprenorphine to naltrexone can be achieved much earlier than from methadone to naltrexone
- buprenorphine is less affected by hepatic enzyme inducers; however, clients should still be closely monitored if enzyme inducers are co-administered
- buprenorphine is less sedating than methadone. This may be positive or negative for different clients
- the use of buprenorphine alone is safer in overdose
• there are risks with injecting buprenorphine (buprenorphine tablets may be crushed and injected)
• the effect of buprenorphine on the liver.

Current NICE guidance is that the decision on which drug to use should be made on a case-by-case basis with the individual; however, where both are equally suitable and there is no client preference, methadone should be the drug of choice.

**Injectable opioid maintenance treatment**

Injectable prescribing remains of interest as a possible approach for treatment of clients who have not responded to methadone treatment, and for those who are difficult to engage and retain in treatment.

Specialist levels of clinical competence are required to prescribe injectable opioid substitute drugs and Department of Health authorisation is required for diamorphine prescribing and any treatment must be in line with the 2003 National Treatment Agency guidance report, *Injectable heroin (and injectable methadone): potential roles in drug treatment*.

Two injectable products prescribed are diamorphine (pharmaceutical heroin) and methadone.

The evidence base for prescribing diamorphine is relatively small, with only a few studies that have mainly been based on long-term heroin injectors, and smokers for whom other treatments have failed. Evidence from these studies suggests that prescribing diamorphine is feasible in specialist settings, it succeeds in retaining people in treatment, and there are health and social gains. Clients improve in most areas – their physical and mental health, illicit drug use and crime are reduced and employment increases, however, costs are higher than for oral administration, especially if doses are supervised. The most recent study, the Randomised Injectable Opioid Treatment Trial (RIOTT) trial, published in 2010, showed that treatment with supervised injectable heroin leads to significantly lower levels of use of street heroin at 26 weeks, when compared with injectable or oral methadone.

**Other opiates used in treatment**

Dihydrocodeine and morphine have both been used by specialist clinicians within drug treatment agencies, although both are unlicensed and there is little evidence as to their effectiveness. The general principle behind their use is that they are shorter-acting drugs and are associated with less severe withdrawal symptoms, which makes it easier for clients to gradually reduce their use.

**4.6 Prescribing for detoxification**

**Opioid detoxification**

The decision to try detoxification needs to be made jointly between the prescriber and the clients; attempts to push the client into a decision are likely to end in failure and could potentially put them at risk from overdose when they return to using heroin. Clients should be aware that detoxification is rarely successful first time round, but that the chances of success are much increased if it is as part of a
wide range of psychosocial interventions. Detoxification may take up to 12 weeks as an outpatient. Slow or long-term detoxifications have poor outcomes, with clients usually ending up with maintenance treatment on sub-therapeutic doses. Maintenance treatment should be considered as an option for detoxifications that are unsuccessful as it is a good route to future detoxification.

Both methadone and buprenorphine can be used for detoxification and if a client has been on maintenance therapy, it is usually recommended that they continue to detoxification using the drug they are already taking.

**Methadone detoxification**

Methadone may be initiated as part of an agreed detoxification regime or reduced from a maintenance dose. The client should be stabilised on a dose of methadone with a linear dose reduction over an agreed period of time, usually 5 mg every one to two weeks, lasting around 12 weeks.

**Buprenorphine detoxification**

Buprenorphine may be initiated as part of an agreed detoxification regime, reduced from a maintenance dose or initiated following a period of methadone maintenance. As with methadone, the client is stabilised on a dose of buprenorphine and the dose is reduced over an agreed period of time, decreasing by 2 mg every two weeks initially, and with 400 microgram reductions later. Clients may report a quicker reduction of dose with buprenorphine than with methadone, although both show similar outcomes.

**Treatment of opioid withdrawal symptoms**

Opiate withdrawal symptoms include flu-like symptoms which may be severe, especially stomach cramps and sweating. Other symptoms include yawning, irritability, insomnia, nausea, vomiting, diarrhoea, pain and muscle spasms.

Methadone, buprenorphine and lofexidine have all been shown to be effective in reducing withdrawal symptoms.

**Lofexidine**

Lofexidine is a non-opioid alpha-adrenergic agonist and it is not a controlled drug. It has been shown to reduce adrenaline/noradrenaline-related withdrawal symptoms. However, it does not have an effect on withdrawal symptoms, such as muscle ache, anxiety and insomnia. It is prescribed as 200 microgram tablets at an initial dose of 800 mg. The dose is gradually increased according to client need to a maximum of 2.4 mg and then reduced over a period of seven to ten days. It has a place in treatment for those who do not want to use methadone or buprenorphine and for those who have uncertain dependence. It may also be used in conjunction with opiates at the end of detoxification. Lofexidine causes bradycardia, hypotension and rebound hypertension (if withdrawal is too fast), so the client’s blood pressure should be monitored prior to and during treatment.

The following is a list of medicines that can be prescribed, or are available over-the-counter to manage some withdrawal symptoms:
• insomnia: promethazine 25 mg at night for only short-term use; good sleep principles should be encouraged and complementary therapies may also be found to be useful, although there is no evidence to support this
• anxiety: diazepam (or zopiclone if client has misused benzodiazepines); complementary/relaxation therapies may be useful
• gastrointestinal symptoms: prochlorperazine up to 30 mg daily, dicycloverine 30-60 mg daily, loperamide up to 16 mg daily
• pain: paracetamol or non-steroidal anti-inflammatory drugs (NSAIDs).

NICE technology appraisal TA115: Naltrexone for the management of opioid dependence, specifically states that clonidine or dihydrocodeine should not be used routinely for detoxification and neither should ultra-rapid or rapid detoxification, due to the increased risk of death.32

Relapse prevention
Non-pharmacological relapse prevention is essential and the mainstay of treatment; however, after completing detoxification, some clients may require prescription support to help prevent relapse. Naltrexone has been shown to be helpful for highly motivated individuals but is not routinely beneficial to all.

Naltrexone
Naltrexone is an opiate antagonist. It is available as 50 mg tablets and is licensed as an adjunct to relapse prevention in detoxified opiate users who have remained opiate free for at least seven to 10 days. Naltrexone blocks opiate receptors and so any further opiate use may not have an effect.

Usually an initial dose of 25 mg is given when a client has been opiate-free for seven to ten days (two to three days with buprenorphine), the dose is increased to 50 mg on day two and then continued at this dose until the client feels able to remain opiate free without naltrexone. To help with adherence a dose of 100 mg to 150 mg, three times a week, may be considered. Supervised consumption using existing support may also be considered.

Side-effects of naltrexone include: nausea, vomiting, abdominal pain, headache, sleeping difficulty and reduced energy. Liver function should be monitored before prescribing, as it is hepatotoxic.

When starting naltrexone the following points should be discussed with the client:
• the risk of acute withdrawal if the client is not opiate free when starting naltrexone
• the risk of overdose if the client tries to overcome receptor block with opiate use
• the risk of overdose if the client relapses to opiate use, especially if injected.

Practice point
Does your local support service use naltrexone? Do you have any clients receiving it?
Treatment of stimulant users

Cocaine

There is currently no licensed option to use substitution therapy in the treatment of cocaine use (the use of amphetamine and methylphenidate has been studied in small trials, but not deemed appropriate for wider adoption). Instead, investigations have focused on psychosocial measures and on medicines which may alleviate features of cocaine withdrawal. There is evidence that a range of psychosocial measures, including contingency management, are effective in stimulant misusers. A 2010 report by the National Treatment Agency into the treatment of powder cocaine users showed that:

- After six months of psychosocial treatment, 61 percent had abstained for at least 28 days and that a further 11 percent had cut their usage significantly
- Clients also reduced their use of alcohol, cannabis and amphetamines.

Benzodiazepines can be used to help the client to ‘come down’ from the agitated state that can result from a cocaine binge, to help them to relax and sleep. They are useful in these circumstances, but should only be used in low doses (eg, less than 30 mg diazepam daily) and short term (less than two weeks).

Antidepressants, such as fluoxetine and lofepramine, are important if underlying depression is confirmed. There should be caution in prescribing them if cocaine use continues, due to the rare occurrence of ‘serotonin syndrome’. Serotonin syndrome is a condition caused by drug-induced serotonin hyperstimulation, ie, greater use of agents affecting the serotonergic system. It is characterised by a constellation of symptoms that include physical and mental status changes: agitation, myoclonus, hyper-reflexia, sweating, shivering, tremor, diarrhoea, lack of co-ordination, and fever. Serotonin syndrome can be mild and difficult to diagnose; however, deaths have been reported.

Amphetamines

Some treatment agencies have prescribed oral dexamfetamine (unlicensed use) to daily injecting amphetamine users in an attempt to try and reduce crime and harm (amphetamine is commonly adulterated). Results have shown a reduction in injecting and sharing injecting equipment and greater engagement of clients. However, the ‘Orange book’ guidelines state that there is no research to guide practitioners and as yet no international consensus or endorsement of this practice.

Treatment of benzodiazepine users

Benzodiazepines are frequently used by drug users as a secondary drug, either to enhance the effects of the primary drug, ameliorate withdrawal effects, help manage stimulant drug use or replace alcohol use. This can result in poor physical/mental health and higher risk behaviours with regard to blood-borne viruses.

Benzodiazepines are not licensed for maintenance. At present there is no evidence as to the benefit of long-term prescribing. The BNF suggests appropriate steps for the management of prescribed benzodiazepine withdrawal. If withdrawal is abrupt, confusion, convulsions and toxic psychosis may occur.
The benzodiazepine withdrawal syndrome includes physical symptoms, such as stiffness, weakness, visual disturbances and psychological symptoms, such as anxiety/insomnia, depersonalisation, depression, seizures, delusions and hallucinations. It may continue for weeks or months after stopping benzodiazepines and in view of this, consideration has to be given to the role of long-term prescribing.\textsuperscript{35,36}

**Practice point**

- What support mechanisms or services are available locally for long-term benzodiazepine users to access?
- Could you offer an enhanced service to support these clients?
- Can you identify any long-term users or misusers of benzodiazepines?

**Case studies – Substitute prescribing**

**Case study 3**

Lisa

Lisa is prescribed methadone oral solution 1 mg in 1 mL by the local community drug team. She has been collecting her medication from your pharmacy for the last two weeks. Her dose is 30 mg and her medication is supervised daily by you. One day after receiving her prescription, she attends the needle exchange asking for injecting equipment. You supply her with injecting equipment, but enquire further about her drug use.

What are the options with regard to her treatment, what questions would it be useful to ask and who else would you involve?

*Turn to the end of the section for suggested answers.*
James is prescribed methadone oral solution 1 mg in 1 mL by the local GP. He has been collecting his medication from your pharmacy for the last three years. His dose is 80 mg and he collects his medication weekly. One day after collecting his prescription he informs you that recently he has noticed he is sweating a lot. He knows this is a side-effect of methadone and asks if he would be better taking buprenorphine?

What are the options with regard to his treatment; what questions would it be useful to ask and who else would you involve?

Turn to the end of the section for suggested answers.
# Summary

Treatment of substance misuse should be in line with the UK and NICE guidelines on clinical management. Following assessment, a mutually agreed care plan should be drawn up for each client. A wide range of psychosocial interventions have been shown to be effective in the treatment of substance misuse and in the case of stimulant users are the mainstay of treatment. For opiate users they are used in combination with pharmacological interventions for maintenance and detoxification.

Both methadone and buprenorphine are used for maintenance, but where both drugs are equally suitable for an individual client, then methadone should be prescribed as first choice.

- Both drugs should be administered daily, under supervision where appropriate, for at least the first three months.
- A daily dose of methadone between 60 mg and 120 mg results in improved retention in treatment. Buprenorphine doses are usually within the range of 12-24 mg daily; however, for both drugs, dosing needs to be tailored to the individual.
- Clients are at increased risk of overdose within the first two weeks of taking methadone.
- Clients missing multiple days’ doses (national guidelines state three days but local policies may vary) must be referred to the prescriber for reassessment due to the possible decrease in tolerance.

Methadone or buprenorphine should be offered as first-line treatment for detoxification and the drug chosen should usually be the drug that the client has already been stabilised or maintained on.

## Intended outcomes

<table>
<thead>
<tr>
<th>By the end of this section you should be able to:</th>
<th>Can you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>understand assessment and care planning for substance misusers</td>
<td></td>
</tr>
<tr>
<td>outline the psychosocial treatment options for substance misuse</td>
<td></td>
</tr>
<tr>
<td>explain the pharmacological treatment options for opioid users for maintenance, detoxification and relapse prevention</td>
<td></td>
</tr>
<tr>
<td>describe the treatment options for stimulant and benzodiazepine users.</td>
<td></td>
</tr>
</tbody>
</table>
Suggested answers

Exercise 10 (page 82)

a) What are the side-effects of methadone?

Most common
- Dryness of eyes, mouth, nose
- Constipation

Others
- Nausea and vomiting
- Miosis
- Difficulty in passing urine
- Flushing of skin
- Sweating
- Reduced or absent menstrual cycle in females
- Gynecomastia with long-term use in males
- Heart ‘pounding’

Excess amounts
- Drowsiness
- Respiratory depression

b) What key points would you want to explain to a client who has just started taking methadone?

- As most of the side-effects of methadone are common to all opiates and as clients commencing methadone will not be opiate naïve, they may already be experiencing some of the listed side-effects while using heroin, whether or not they are aware of them.
- They should be advised of the common side-effects and the fact that side-effects may be compounded when used alongside other opiates, benzodiazepines or alcohol. This is especially important for the more serious side-effects, such as respiratory depression.
- They should also be made aware of the symptoms of opiate withdrawal, which they may confuse with side-effects of the methadone.
**Exercise 11 (page 86)**

**Hazardous drug interactions with methadone**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Hazardous Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Enhanced hypotensive and sedative effects when opioid analgesics given with alcohol.</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Plasma concentration of methadone possibly increased by fluoxetine, fluvoxamine and sertraline; possible CNS excitation or depression (hypertension or hypotension) when opioid analgesics given with moclobemide or MAOIs.</td>
</tr>
<tr>
<td>Antiepileptics</td>
<td>Plasma concentration of methadone reduced by carbamazepine; metabolism of methadone accelerated by phenytoin.</td>
</tr>
<tr>
<td>Antihistamines</td>
<td>Sedative effects are possibly increased when opioid analgesics are given with sedating antihistamines.</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>Increased risk of ventricular arrhythmias when methadone is given with antipsychotics that prolong the QT interval or with amisulpride.</td>
</tr>
<tr>
<td>Atomoxetine</td>
<td>Increased risk of ventricular arrhythmias when methadone is given with atomoxetine.</td>
</tr>
<tr>
<td>Sodium oxybate</td>
<td>Opioid analgesics enhance effects of sodium oxybate (avoid concomitant use).</td>
</tr>
<tr>
<td>Voriconazole</td>
<td>Plasma concentration of methadone is increased by voriconazole (consider reducing dose of methadone).</td>
</tr>
</tbody>
</table>

(All from BNF)

**Exercise 12 (page 87)**

a) **What are the side-effects of buprenorphine?**

- The most common side-effects are as for methadone (see answer to Exercise 10 above).
- It can cause mild withdrawal symptoms if opiates are still in the person’s system.
- At high doses, the person can experience respiratory depression, which is only partially reversed by naloxone.

b) **What key points would you want to get across to a client starting buprenorphine?**

- As buprenorphine is only a partial agonist, it is safer in high doses; however, if respiratory depression does occur, the effects can only be partially reversed by naloxone.
- As with the previous question on methadone, the client starting buprenorphine will not be opiate naive, so they may already be experiencing some of the listed side-effects.
Hazardous drug interactions with buprenorphine

<table>
<thead>
<tr>
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<th>Hazardous interaction</th>
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</thead>
<tbody>
<tr>
<td>Alcohol</td>
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</tr>
<tr>
<td>Antihistamines</td>
<td>Sedative effects are possibly increased when opioid analgesics are given with sedating antihistamines.</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>Possible CNS excitation or depression (hypertension or hypotension) when opioid analgesics are given with moclobemide or with MAOIs.</td>
</tr>
<tr>
<td>Ketoconazole</td>
<td>Metabolism of buprenorphine is inhibited by ketoconazole (reduce dose of buprenorphine).</td>
</tr>
<tr>
<td>Sodium oxybate</td>
<td>Opioid analgesics enhance the effects of sodium oxybate (avoid concomitant use).</td>
</tr>
</tbody>
</table>

Case study 3 – Lisa

What are the options with regard to her treatment; what questions would it be useful to ask and who else would you involve?

This situation provides you with an opportunity to have a broader discussion with Lisa. A good place to start might be to ask her about her expectations of being on methadone. If she has been on methadone before then try to discover what her experience was at that time and why she stopped taking it. Explain that higher doses might be better if she wants to further reduce her opiate use. Provide Lisa with information about methadone and the effects of being on long-term methadone. Ask what kind of support you can provide as her pharmacist. This is also a good chance to reinforce harm reduction information. Point out the risk of overdose when mixing drugs, provide safe injecting information and safe storage of take-home medication. With Lisa’s agreement you can also liaise with the prescriber regarding her methadone dose.

Important note: You should not provide information to the prescriber or keyworker about her use of a needle and syringe programme, unless she gives express permission to do so.
What are the options with regard to his treatment; what questions would it be useful to ask and who else would you involve?

Ask James about the impact of his sweating (ie life, work, feeling uncomfortable around people). Discuss the balance of the positives of being on methadone and the negatives of any side-effects. Provide him with information about buprenorphine and what he would have to do to start taking it (ie, reduce methadone dose to 30 mg over time before switching to buprenorphine) and explain why this is necessary. With agreement from James you may liaise with the prescriber and/or keyworker.
References


Section 5
Providing pharmacy services for substance misusers

Objectives

On completion of this section you should be able to:

- understand the aims and objectives of a needle and syringe programme and the practical issues to consider when delivering this service
- explain the aims and delivery of shared care services for the dispensing and supervised consumption of prescribed oral opioid substitution therapy, such as methadone and buprenorphine
- outline the training and accreditation required by pharmacists and their teams to deliver services locally.

The aim of providing pharmacy services to substance misusers is to assist them to remain healthy, reduce drug-related harm, provide them with regular contact with a healthcare professional and help them to access further advice.\(^1\)

In this section we will look at the practicalities of implementing the main NHS funded services for substance misusers. We will explore the processes and procedures that need to be in place and the training you and your pharmacy team will need to undertake before setting up your service.

The following two documents contain guidance on the delivery of pharmacy services to substance misusers. You will need to read them in conjunction with this section:

- **Best practice guidance for commissioners and providers of pharmaceutical services for drug users** (February 2006).
  
  Published jointly by the National Treatment Agency for Substance Misuse, RPSGB, PSNC, and Pharmag. Available via the PSNC web page: http://www.psnc.org.uk/publications_detail.php/92/pharmaceutical_services_for_drug_users

- **NICE public health guidance: PH18 February 2009**
  
  Needle and syringe programmes: providing people who inject drugs with injecting equipment.
  
  Available online at: http://www.nice.org.uk

5.1 Needle and syringe programmes

Aims of the service

The aim of needle and syringe programmes is to reduce the transmission of blood-borne viruses and other infections caused by sharing injecting equipment, by providing sterile injecting equipment and ensuring its safe disposal.
Service outline

Needle and syringe programmes are classified as a Tier 2 intervention in Models of care for treatment of adult drug misusers: update 2006 and are currently an enhanced service within the pharmacy contract. Pharmacy-based needle and syringe programmes provide needles, syringes, sharps bins and other injecting paraphernalia, such filters, spoons, sterile water, citric acid, ascorbic acid and swabs. (If a pharmacy does not offer the full range, they must signpost clients to an alternative source of supply.)

In addition they should provide:
- advice on the risk of injecting
- advice on how to avoid overdose
- encouragement to register with a GP
- sharps bins and information on safe disposal of injecting equipment
- referral to blood-borne virus screening, vaccination and treatment services
- other healthcare advice and services in areas such as dental health, nutrition, alcohol, smoking and safer sex (including condom provision).

They may also provide:
- advice on safer injecting and the risks of unsafe injecting practices
- help to stop injecting, including access to opioid substitution therapy and encouragement to switch to non-injecting methods
- access to blood-borne virus screening, vaccination and treatment services
- drug-specific harm reduction advice.

NICE guidance PH18 divides service provision into three levels and recommends that localities should provide a mix of all three.

- **Level 1**: Distribution of injecting equipment (pre-packed or loose) with written information about harm reduction.
- **Level 2**: Distribution of ‘pick and mix’ (bespoke) equipment plus health promotion and harm reduction advice.
- **Level 3**: As Level 2, but with signposting and/or referral to specialist services.

Most pharmacies offer Level 1 or Level 2 services. Many clients tend to prefer a ‘pick and mix’ system which they are more likely to be able to tailor to their exact needs, while pharmacists tend to prefer the ‘pre-pack’ system because stock is more easily managed. It is also likely to be less wasteful as unwanted materials are not supplied.

The guidance also suggests that pharmacies maximise accessibility by extending their opening hours and recommends that pharmacies offering substitution therapy also allow their clients to access the needle and syringe programme.

Needle and syringe programmes should be accessible to all who need it, especially the most vulnerable and people who are currently using opioid substitution therapy. In reality, many of these clients will still be injecting as well; however, the frequency will be dramatically reduced, thus decreasing their risk of blood-borne viruses and overdose. By providing them with clean supplies you will be able to
build rapport with them too. Where an individual is accessing opioid substitution and needle and syringe programmes, mutual information transfer should not occur without prior consent of the client and only as part of a shared care agreement; however, you should encourage them to make their prescriber or keyworker aware that they are still using as well.

**Service delivery**

The service offered by each needle and syringe programme varies from area to area in order to best meet local need. Equipment is provided free of charge to adult injecting drug users, usually on an anonymous basis. Minimal identification details, such as date of birth, age, nickname and (possibly) postcode may be taken. Exchanges of injecting equipment should be conducted as discreetly as possible. Fear of identification can be a major factor in deterring some injecting clients from needle and syringe programmes; women with young children, for example, may have worries about possible child protection issues being raised.

Some pharmacies (particularly those seeing large numbers of injectors) designate specific areas of the shop for needle and syringe programme clients, sometimes even providing separate entrances. Depending on how this is implemented, it can have either positive or negative effects on discretion and anonymity.

There are marked differences in the ways in which needle and syringe programmes are co-ordinated and recompensed throughout the country, so it is difficult to give an accurate overview. In many areas pharmacy schemes are co-ordinated from within the specialist drug service, by the NHS locally or occasionally by a pharmacy or group of pharmacies. Payment systems vary, from a flat fee for providing the service, to a payment per transaction or a banding system with a maximum payment cap (or a combination of systems). The large network of community pharmacies ensures that they are able to provide wide geographical coverage that would be impossible by almost any other means.

**Practice point**

**Find out how needle and syringe programmes are co-ordinated in your area – who is the local lead?**

**Obtain a copy of your local service level agreement or specification for provision of needle and syringe programmes. Do they cover under-18s? If so, what agreements must be in place and is extra training required to work with this group of clients? If not, how should you respond to requests from under-18s?**

**Coverage**

‘Coverage’ is a term that has been used for many years to describe the extent to which healthcare services reach their target population.\(^3\) In relation to needle and syringe programmes it describes the provision of sufficient sterile injecting equipment to meet a client’s needs. There is no one agreed definition of coverage.
so it is essential to understand the definition being used and any assumptions in place when calculating coverage.

Coverage is particularly relevant to needle and syringe programmes as the provision of enough equipment will decrease the need to share equipment, thus reducing the spread of blood-borne infections. Inadequate coverage will affect the return rates of equipment as once it is used it remains in circulation to meet needs.

NICE recommends that commissioners should aim to have over 100 percent coverage so that each individual would have more than one sterile needle and syringe for every injection, which is essential to allow for breakages and missed veins. This figure is calculated by estimating the number of people injecting illicit substances locally, both in and out of treatment and recognises the fact that some people access needle and syringe programmes indirectly through peer distribution. Additionally it factors in injectors of anabolic steroids and other performance and image-enhancing drugs (PIEDs).

Exercise 14

To view the coverage calculator and see the assumptions used, visit the Harm Reduction Works web page:
http://www.harmreductionworks.org.uk/5_web/coverage_calculator/index.php

Equipment provision

As mentioned earlier, equipment is provided free of charge to clients, usually on an anonymous basis. NICE recommends that the quantity provided should not have a set limit, but should meet their needs. In practice, local policies may specify a limit, especially when the client is not returning a sharps bin.

Needles and syringes

The size and type of needle and syringe required will be a personal choice, dependant on the drug and the site of the injection, and where possible clients should be offered a choice of sizes. Exactly what is available will vary from area to area but generally there will be an option to use a complete unit or to choose syringes and needles separately. To encourage identification of equipment in group situations colour-coded syringes are sometimes provided. From a harm reduction point of view, the smaller the needle, the less harm it will do to the vein; however, anyone injecting anabolic steroids will need a wider needle (smaller gauge) and wider barrel due to the more viscous nature of oil-based drugs and the larger volumes injected.

Opioid and stimulant users will usually require 1 mL or 2 mL syringes and may use a range of needle sizes for intravenous injection. Smaller needles should be encouraged for peripheral veins. Anabolic steroid users will generally use larger 3 mL or 5 mL syringes and 23 gauge blue 1” or 21 gauge green 1.5” needles for intramuscular injection.
Various posters are available to encourage clients to think about their choice of needles. One such example is shown below:

![Poster showing needles of different sizes and thicknesses.](image)

**Other injecting paraphernalia**

Section 9a of the Misuse of Drugs Act 1971\(^4\) defines what injecting paraphernalia is legal to supply:

**Paraphernalia that is currently legal to supply**
- Sterile spoons (cups, cookers, bowls, dishes)
- Citric acid
- Ascorbic acid (VitC)
- Filters
- Water for injections (WFI)
- Alcohol swabs

**Paraphernalia that is not currently legal to supply**
- Tourniquets
- Lighters, matches and nightlights
- Pipes
- Foil\(^*\)

\(^*\)Foil: Although technically illegal to supply, foil is so important in the effort to reduce injecting and encourage chasing instead, that many needle and syringe programmes do provide it, in agreement with the local police. (At the time of writing the legal status of foil is under review.) For more information on the evidence to support the provision of foil, see the Foil report published by the ACMD in November 2010. It is available on the Home Office web page: [http://www.homeoffice.gov.uk/publications/drugs/acmd1/foil-report](http://www.homeoffice.gov.uk/publications/drugs/acmd1/foil-report)
What is the policy on provision of foil where you work?
If you can provide it, do you talk to your clients to encourage them to try chasing or smoking instead of injecting?

Return of used injecting equipment
You should strongly promote the return or appropriate disposal of used injecting equipment by periodically and actively entering into dialogue to encourage clients to bring back their returns.

The amount of used injecting equipment that is disposed of inappropriately in the community is quite low, when compared to the amount of equipment given out, because the vast majority of injectors behave responsibly. However, used injecting equipment that is inappropriately disposed of poses a potential public health risk and has a major effect on the local perceptions of public safety. It also undermines support for needle and syringe programmes.

Some of the barriers to safe disposal include:
- apathy and indifference to the risks involved
- inadequate supplies necessitating retention for reuse
- lack of awareness
- effects of drug use
- lack of available facilities (particularly outside normal working hours)
- concerns about disclosure and stigma if found with used needles (especially by the police)
- injecting in public places, such as toilets.

Many of these barriers can be overcome through education, providing easy access for return and signposting to other services who may offer more accessible facilities, such as 24-hour ‘wall bins’. Pharmacists can encourage safe return or disposal of injecting equipment by providing sharps bins. They should also provide information to clients as to what is appropriate disposal; for example, if they do not have access to a sharps bin, using a needle clipper if available, or using a strong capped plastic bottle may be a ‘second best’ option.

If a client does not return used equipment they should not automatically be denied a further supply. It is perfectly possible that previously supplied injecting equipment was disposed of responsibly elsewhere. You should not assume that the failure to return equipment means that it was inappropriately disposed of.

While it should be the norm to expect regular attendees to return their used equipment, policies that demand strict ‘1 for 1’ exchange are harmful. This type of policy or requirement can place severe limits on the amount of injecting equipment available to people – decreasing coverage and leading inevitably to increased reuse and sharing rates. Such policies are often naively adopted in
response to adverse local publicity about finds of injecting equipment in the community, but in practice this kind of policy tends to punish the majority for the actions of a few, diminish the effectiveness of equipment provision and actually does little to deal with the original problem. A survey carried out in 2000 in south-east England found that only 3.3 percent of the community pharmacists surveyed who provided a needle and syringe programme, insisted on strict ‘1 for 1’ exchange. However, the return rates estimated by pharmacies who said they strongly encouraged returns were considerably higher than those that did not encourage returns.6

The National Treatment Agency recommends that within each area, there should be a written strategy on how to maximise the return of used equipment. This should be decided at a local level and could include:

- establishing target return rates
- a requirement that users return used equipment
- periodic awareness campaigns
- ensuring adequate coverage.

The most effective returns policies are likely to include provision of adequate supplies and strong encouragement to return equipment; coupled with the flexibility to provide some equipment even when there are no returns.

**Practice point**

Find out what the local policy is regarding quantities that can be given out to each individual.

Does this change if they don’t bring back returns?

Where do you signpost clients to for return of used equipment when your pharmacy is closed?

**Safe handling of returned equipment**

Any member of the pharmacy team who handles returns must be appropriately trained in dealing with clients discretely, as well as in health and safety procedures. Risk assessment should be used to identify a safe system of handling used equipment and standard operating procedures should be followed and monitored. Ideally, a large pharmacy sharps bin should be directly accessible to the clients so that they can just drop in their returned small bins; however, if this is not feasible, a member of staff must bring the pharmacy sharps bin to the client, and not handle loose returns themselves. NICE recommends that all staff have hepatitis B vaccinations prior to their involvement with the service.1 Pharmacy employers are responsible for this, although in many areas there is local funding available.
Dealing with sharps spillages (and other bodily fluids)

All used injecting equipment and bodily fluids may contain traces of blood and therefore should be treated as infected to minimise any risk to members of staff. If used injecting equipment does spill onto the floor, members of the public should be kept away and it should be cleared up immediately into a sharps bin using forceps or tongs, dustpan and brush. Gloves should be worn, but staff should be aware that they should not handle sharps directly as there is still a risk of needlestick injury through the gloves. (Only chain mail gloves offer protection from needlestick injury.) Once cleared the area should be disinfected and afterwards any appropriate documentation must be completed, in line with your standard operating procedure.

The protocol for dealing with needle stick injury involves:

- squeezing the area to make it bleed (do not suck)
- washing the area with soapy water that is at body temperature
- going to the accident and emergency department within two hours where post-exposure antiviral prophylaxis may be administered
- making a record of the incident, as per standard operating procedures.

Practice point

What systems do you have in place in your pharmacy to deal with spillages of sharps or bodily fluids? Are all members of your team aware of them? What documentation do you need to complete in case of an incident?

Monitoring

Monitoring is important to assess the level of use of the needle and syringe programme for audit purposes and to ensure that there is sufficient coverage in each area. You should be aware of the data you need to record for monitoring purposes in your area, as outlined in your local service level agreement.
Case studies – Needle and syringe programmes

Case study 5
Leona

Leona attends your pharmacy needle and syringe programme for the first time and receives a pack containing ten syringes. Three days later she returns for more equipment, but has brought no syringes back with her.

What are your choices in this situation?

What questions would it be useful to ask?

What could you do to encourage Leona to return her syringes in future?
Case study 6
Martin

Martin has been coming to your pharmacy for injecting equipment for nearly a year. One day he asks to see you and shows you an abscess on his arm asking, ‘what can I put on it?’

What would you do?

Case study 7
Jack

Jack is prescribed methadone mixture by the local community drug team and you have been dispensing it to him for several months. One day, after receiving his prescription, he asks for injecting equipment.

What should you do and should you inform anyone?

Turn to the end of the section for suggested answers.
5.2 Dispensing and supervised consumption of oral opioid substitution therapy

Aims of the service
Pharmacies offering these services aim to ensure compliance with the agreed treatment plan, improve retention by providing instalment dispensing and ensure that each supervised dose is correctly administered to the intended client.

Service outline
The dispensing of opioid substitution therapy prescriptions for substance misusers is an essential service available through all pharmacies, while supervised consumption is an enhanced service, commissioned locally and provided by pharmacists who meet the agreed criteria. However, most pharmacies are unlikely to only offer dispensing due to the requirement that clients should be supervised for the first three months of treatment. Because of the assessment and care planning involved with substitute prescribing and the high duty of care linked to controlled drugs, these pharmacy services are classed as a Tier 3 intervention in Models of care for treatment of adult drug misusers: update 2006.²

The services provided should meet the demands of the local population and be integrated with the local prescribing services and treatment systems. They need to ensure clients have access to a daily dispensing service and supervised consumption service in a way that protects their privacy and dignity, and they should have access to a range of harm reduction interventions, with referral to other organisations where necessary. There must be provision for this service to continue to operate with locum pharmacists as necessary.

Service delivery
As with the needle and syringe programme, the service specification will vary depending on the local area and the extent to which the role of pharmacy is integrated within the multidisciplinary team, but there are many common features, which we have summarised below.

Client/pharmacist agreement
In order to access treatment services, clients are sometimes required to sign an agreement with the pharmacy that is providing their medication. A poorly constructed agreement, consisting of a list of rules to abide by is likely to leave a client feeling devalued and discriminated against, making them less likely to engage with treatment. However, done well, the agreement can act as the starting point of a strong pharmacist/client relationship. It should be two-way, specifying the standard of service that can be expected from the pharmacy and the standard of conduct required from the client. The agreement should be discussed with each client prior to signing, to explain the reason behind the points on the form and the consequences if the agreement is violated. This is especially important where literacy or language barriers may be an issue.

For further guidance there is a ‘terms of service’ template on the Pharmaceutical Services Negotiating Committee (PSNC) website: http://www.psnc.org.uk (type ‘supervised administration’ into the search box.)
Exercise 15

What information would you expect to be included in a pharmacist/client agreement?

Turn to the end of the section for suggested answers.

Practice point

If you currently have a client agreement in place, take some time to review it. Is it a list of rules or a mutually respective agreement? Does it cover all necessary points?

New clients

Ideally, your pharmacy should be contacted in advance by the keyworker or prescriber to check that you can supply a new client; then you can arrange for the prescription to be sent to you, ideally in advance, to check for accuracy. Sometimes however, unexpected clients may arrive with a prescription.

Although there should be arrangements in place to allow clients to choose a pharmacy outside their drug action team or local commissioning area, some commissioners restrict provision to people resident in their area.
Practice point

How are arrangements set up in your area? Can you dispense to and supervise people outside your commissioning area?

Substitute medication and driving

Exercise 16

If you are not familiar with the rules regarding driving while taking substitute medication, spend some time looking at the THINK! website (http://www.dft.gov.uk/think/) and the Driver and Vehicle Licensing Agency (DVLA) website (http://www.dft.gov.uk/dvla/medical.aspx) to ensure that you would be able to signpost clients to the appropriate paperwork if required, as well as provide accurate information to them on their eligibility to drive.

Prescriptions from prisons – HMP stamped

Prisoners released from prisons and young offender institutions may be issued with an FP10 or FP10 [MDA] prescription form. This is particularly useful for unplanned releases of prisoners (eg, following court appearances or early release) when the normal arrangements for issuing medicines for discharge cannot readily be made.

Ideally, the prison pharmacy should make contact with the chosen community pharmacy prior to the release of the prisoner to confirm that they can provide a supervised consumption service; however, this is not always practical, especially if the release was unplanned. Clients presenting with an HMP prescription form are exempt from prescription charges but do not need to sign the back of the prescription form. You and your team should be aware of this fact to prevent an awkward situation occurring where the client is unwilling or unable to sign the form.

For more information see: Provision of FP10 and FP10 [MDA] prescription forms by HM Prison Service Healthcare for released prisoners: guidance for England only, which is available online via the Department of Health website.
Practicalities of dispensing of opioid substitution therapy

Legality of the prescription

Prescriptions for opioid substitutes need to fulfil all the normal controlled drug requirements, but you also need to be aware of the added requirements relating to instalment dispensing, particularly regarding the wording required for doses when the pharmacy is closed and for missed doses.

When prescribing controlled drugs on instalment prescriptions if a client fails to collect an instalment on a particular day, the remainder of the controlled drug medication can be supplied, providing the specified wording given by the Home Office is stated on the prescription.8

If a prescriber wants the client to be supervised while consuming their dose on the days that they collect from the pharmacy, but still wants them to be able to obtain their medicine if they miss their prescribed collection day, the following exact wording can be added to the prescription:

‘Supervised consumption of daily doses on specified days; the remainder of the supply to take home. If an instalment prescription covers more than one day and is not collected on the specified day, the total amount prescribed less the amount prescribed for the day(s) missed may be supplied.’

If a prescriber wants to ensure that the client is not supplied with their dose if they have missed collecting for three days, then this (exact) wording can be added to the prescription:

‘Instalment prescriptions covering more than one day should be collected on the specified day. If this collection is missed, the remainder of the instalment (ie, the total amount less the instalment(s) for the day(s) missed) may continue to be supplied in the specified instalments at the stated intervals, provided no more than three days are missed.’

Ideally you should have procedures in place to allow you to receive the prescription in advance of the dispensing start date, to ensure that any errors can be rectified prior to the client coming in to collect their medication.

As well as the normal legality issues and clinical appropriateness you can refuse to dispense on grounds of violent or threatening behaviour posing serious risk to staff and public, or if as a result of your professional risk assessment, there is decreased tolerance due to missed collections, or if there are signs of intoxication.

Sugar-free methadone

There are two different presentations of methadone and the prescription needs to be specific about which type to supply. It is not down to the choice of the client and they should be aware that you cannot swap between the two types without the prescriber’s agreement.

Safety

Where possible, methadone doses should be made up in advance, in standard dispensing bottles, and stored in the controlled drugs cupboard, with a double check as they are issued. They should be dispensed with child-resistant lids for safety and where practical, take-home doses should be in single-dose bottles. Where the prescription specifies single-dose containers you will be reimbursed accordingly.
Extemporaneous preparation of methadone

Methadone should only be prepared extemporaneously when the quantity dispensed on a daily basis makes it practically impossible to store in safe custody. The Royal Pharmaceutical Society has issued relevant guidance which is available at: http://www.rpharms.com (select their ‘Support’ section, then ‘Your day-to-day practice’, then ‘Law and Ethics’).

Practicalities of supervised administration

It is important that you have a suitably quiet and private area to supervise consumption and that you consider how you will plan for the number of clients that you have. With buprenorphine, clients will be in the pharmacy for up to five minutes and so you need to think about what times of day may be busiest and how you handle this service alongside your other daily activities. Before supervising a dose you should check for signs of intoxication and that no doses have been missed. For new or unknown clients you should also check their ID.

Methadone

When supervising consumption you should try to ensure that the client has swallowed the dose. The easiest way is to provide them with a drink of water afterwards, which also has the added benefit of rinsing the mouth if they have the sugar-containing formulation. If they refuse water you need to try to engage them in conversation to ensure the methadone has been swallowed.

Once the dose has been taken, bottles should be disposed of by removing the dispensing label to ensure confidentiality, (pour any dregs into a denaturing kit) and put the bottle in the returned medicines waste.

Buprenorphine

Buprenorphine supervision is a longer process than for methadone, due to the time that the tablet takes to dissolve. How the process is managed varies from area to area but in some areas, crushing of tablets into granules is accepted practice to speed up the process. You should be aware of the policy locally. (See Section 4, page 90 for more information.)

5.3 Training required to provide the services

Working with substance misusers is rewarding; however, it can also be challenging. It is essential that all staff who come into contact with clients are appropriately trained and aware of health and safety issues.

Pharmacists

To provide services for substance misusers, pharmacists are required to prove that they have the locally required knowledge and skills for delivery. Many commissioners use this CPPE open learning programme and the associated e-assessment as the source of the underpinning knowledge and may supplement this with a locally provided workshop or other route of learning. The area of substance misuse and the law surrounding it is constantly changing, so as well as completing the required training, pharmacists should also ensure that they keep up to date with changes as part of their CPD. One resource that you may find helpful
is ‘The Skills Hub’ available on the Substance Misuse Skills Consortium Skills website at: http://www.skillsconsortium.org.uk

For pharmacists who wish to extend their learning further, the Royal College of General Practitioners (RCGP) co-ordinate a multidisciplinary Certificate in the management of drug misuse. This is divided into Part 1 and Certificate Part 2 (multidisciplinary). Part 1 training for pharmacists is obtained by completion of two e-learning modules, followed by attendance at a six-hour RCGP Part 1 face-to-face training day.

The Certificate Part 2 builds on Part 1 and consists of five to six days’ training over a period of nine to ten months. This course is open to GPs, pharmacists, nurses and ‘expert clients’ and has proved highly successful for those wanting to develop their skills and knowledge in this field. Further information on the RCGP certificates can be obtained from: http://www.rcgp.org.uk

Other relevant topics covered by CPPE learning opportunities include:

- alcohol
- immunisation in pharmacies
- mental health
- safeguarding children
- sexual health.

Visit: http://www.cppe.ac.uk/portfolio to look at learning programmes and e-assessments on these topics, which are available to order or download.

**Pharmacy technicians**

Pharmacy technicians have an opportunity to play a major role in the delivery of services to clients. As well as this open learning programme, there is also another CPPE open learning programme entitled, *Substance use and misuse: fundamentals and practicalities for the pharmacy technician*, available to order or download from the CPPE website: http://www.cppe.ac.uk/portfolio

**Other staff**

It is imperative that any other staff, including locum pharmacists, are trained and aware of standard operating procedures for dealing with clients. The training should include issues around client confidentiality and health and safety, as well as ensuring procedures are in place for identifying clients who are attending the pharmacy on a regular/daily basis.
Case studies – Dispensing and supervised consumption

Case study 8

Chris

Part 1

Chris is a young man who arrives in your pharmacy with prescriptions from out of your area. On questioning he says he has come to stay with his mother for a week as she is unwell. He has been prescribed the following on separate prescriptions:

- Methadone oral solution 1 mg in 1 mL, 45 mL daily (for supervised consumption) 2/52
- Dihydrocodeine 30 mg, four times daily when required, x 50
- Tegretol Retard 400 mg, twice daily

What are the key issues with this prescription and what action would you take?

Part 2

On contacting the surgery the doctor confirms that the prescription is genuine but confesses that he doesn’t know the client well. The doctor says he has only worked at the surgery for a month, with little experience of drug users, but the lead GP is on holiday. When you ask for more information he tells you that the client has been registered with the practice for many years but has only started his methadone three weeks ago. The GP has initiated some dihydrocodeine because the client insists that the methadone dose will not be enough to ‘hold him’ and as he also has some joint pain the doctor thought he needed something strong as he was already on methadone. He asks you, ‘Am I doing the right thing?’
Part 3
The GP asks you not to dispense the dihydrocodeine but to tell the client he will increase his methadone dose as soon as he gets back. He advises paracetamol or ibuprofen for his pain in the meantime.

The client is not happy about taking paracetamol as he declares it to be useless. He defiantly tells you that it is your fault that he will have to use on top of his regular dose and could he please buy some needles, syringes, citric acid and water to help him inject his heroin.

What would you do?
Part 4
The client turns up regularly for a week but then you hear nothing for four days. On the fifth day he comes in asking for his methadone.

What would you do?

Case study 9
Mrs Smith and her son Adam

Part 1
Mrs Smith, aged 47 years and a regular customer, says she has found a bottle of medicine in her 16-year-old son Adam’s bedroom. She can’t pronounce the name but has written the word methadone onto a piece of paper. She asks you what it is for. You know that you have not dispensed any for Adam (which is confirmed by looking in the controlled drugs register).

When you ask her, she says that the bottle is half empty and the label has your pharmacy address on it but no patient’s name. Adam was still asleep in bed when she left the house.

What are the main issues?
**Part 2**
You inform Mrs Smith that the medicine is very similar to strong painkillers and could be dangerous if taken by someone who is not used to it and you need to confirm that Adam has not taken any. She says that he has a mobile and she successfully contacts him on it. Mrs Smith tells you that he claims not to have taken any and that it belongs to a friend. She thanks you and says she will find out more when she gets home.

**Would you say anything else?**

**Part 3**
The following day Mrs Smith is back, visibly upset. She got home and indeed could not rouse Adam. Having called an ambulance he was taken to hospital where he was treated for an opioid overdose. She took the bottle into hospital with her and so did not get it back, but she did have time to look more closely at the label. She found out that the client’s name had been scrubbed out, but that it had been dispensed three days earlier. She commented on the bottle being so large (500 mL). She is furious that these ‘druggies’ have nearly caused her son’s death and criticises you for dispensing for them.

**Can you offer her any advice?**
Part 4
As you currently only have two clients on weekly pickups you think you know that the client who originally received the methadone is Ms Green. You have known her for over three years and although she started off being very chaotic and even stole from you on one occasion, she seems to have settled. She has just moved from daily pickup to weekly pickup.

What would you do?

Part 5
Ms Green comes into the shop a few days later looking terrible. She has come to you because she knows you run a minor ailments scheme. She tells you that she has been banned from her GP’s surgery, but she had just discovered she is pregnant and her boyfriend left her on hearing that she wanted to keep the baby, so she went on a binge and part-exchanged her methadone for some heroin with a local dealer. She has decided to detox at home for the baby’s sake and wants your help to give her something to alleviate the symptoms she will suffer.

What would you do?
Part 6
A week later, 16-year-old Adam comes into your pharmacy and asks you for some codeine linctus for his nasty cough. You advise him that you can’t sell it to him as codeine cough relief products are not recommended for under-18s, but that you can offer a simple linctus for the cough and confidential advice on drugs. He reacts and insists he is not a ‘junkie’. However, he confesses he smokes cannabis but says that as it is now legal he is not doing anything wrong. He says he knows that addiction can cause problems as some of his friends are ‘hooked’ but that he has only tried a few doses and can control his usage.

What would you advise?

Turn to the end of the section for suggested answers.
Summary

The role of the pharmacist and the pharmacy team is continually evolving and there are a variety of ways in which you can contribute to the care of clients. Often you may be the only professional who has contact with substance misuse clients on a regular basis and can therefore form a good rapport with them.

The supply of sterile injecting equipment and the provision for its safe disposal is a key element in the effort to reduce the spread of life-threatening blood-borne viruses and other infections. It is also essential to achieve adequate coverage for this service.

Clients who collect prescribed opiate substitutes should be allowed to use the pharmacy needle exchange and their confidentiality in doing so should be maintained, information should not be shared unless there is genuine concern for the safety of the client or the wider community.

Training and continuing professional development are essential when providing substance misuse pharmacy services and should include issues around client confidentiality and standard operating procedures.

Intended outcomes

By the end of this section you should be able to: Can you?

- understand the aims and objectives of a needle and syringe programme and the practical issues to consider when delivering this service

- explain the aims and delivery of shared care services for the dispensing and supervised consumption of prescribed oral opioid substitution therapy, such as methadone and buprenorphine

- outline the training and accreditation required by pharmacists and their teams to deliver services locally.

Reflective questions

Now that you have completed this programme look back at the answers you gave to the Reflective questions on pages 1 and 2 of this programme. Would you answer them any differently now, as a result of your learning?

Have all your learning needs have been met in this subject area? If not, note down your remaining learning needs and make an action plan to determine how you will meet them.
Suggested answers

Exercise 14 (page 116)

What information would you expect to be included in a pharmacist/client agreement?

This list is not exhaustive and may vary depending on the exact service specification, but relevant points may include:

- arrangements for collection and supervision
- ID requirements if someone else is collecting
- missed dose rules
- pharmacy opening hours
- contact numbers for your pharmacy and other relevant organisations
- confidentiality statement, including guidance on information sharing
- complaints procedure
- overdose prevention and treatment advice
- what constitutes unacceptable behaviour
- penalties for violation of the agreement.

Case study 5: Leona (page 113)

What are your choices in this situation?

Your choices in this situation will depend at least to some degree on any local policy on the return of equipment and you need to know what that is. But, in essence your choices are to:

- supply the needles and syringes that she is requesting with encouragement to return them on her next visit
- supply her with a reduced number of syringes, with encouragement to return them
- refuse to supply her with any more syringes.

Particularly because it is only Leona’s second visit to your pharmacy, it would be very harsh to refuse to allow her any more syringes. A refusal makes it more likely that she may have to use syringes that have previously been used by someone else, increasing her risk of acquiring blood-borne viruses. Giving a reduced number of syringes will address her immediate needs, but may mean that she needs to reuse the syringes that she has been given before her next visit. In this situation it would usually make most sense to give her what she is requesting and encourage her to return the used equipment on her next visit.

What questions would it be useful to ask?

To inform your decision, it would be useful to know why she has not returned the syringes and how they were disposed of. For example, it may have been that she has
been held in police custody and her injecting equipment was confiscated. Alternatively, she may have responsibly disposed of her equipment at another needle exchange or in a sharps bin in the community. Or, she may simply have forgotten to bring them with her.

**What could you do to encourage Leona to return her syringes in future?**

To encourage Leona to return her used equipment in future, you can let her know that while you realise that it may not always be possible to return her equipment, continuing to provide her with needles and syringes becomes progressively more difficult if none are returned.

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**Case study 6: Martin** *(page 114)*

**What would you do?**

Your advice on treatment should be similar to that which you would give to any other member of the community with a similar infection. However, you should be aware that injecting drug users often avoid primary healthcare services unless their health problems become severe. In most instances therefore, it would be useful to strongly encourage him to seek medical treatment and to strongly discourage him from attempting ‘self-surgery’ or self-treatment with antibiotics.

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**Case study 7: Jack** *(page 114)*

**What should you do and should you inform anyone?**

You should supply the syringes. If he is injecting, it is better that he has a source of sterile needles and syringes with which to do so. Or, it may be that he is collecting the equipment for a friend or partner.

If he asks whether you will inform the community drug team, you should make it clear that you will not. However, if he is injecting street drugs on top of his prescription, it may be appropriate to suggest that he should inform the community drug team himself, in order that his treatment can be better suited to his needs. Whether it is appropriate or not to suggest this depends on several factors, including the likelihood of punitive measures being taken by the community drug team.

Clients who collect prescribed methadone or other opiate substitutes should be allowed to use the pharmacy needle exchange and their confidentiality in doing so should be maintained.
Part 1

What are the key issues with this prescription and what action would you take?

Key points to consider would be:

- as the client is unknown to you and from out of the area you will need to do some checks to confirm his identity and also the validity of the prescription with the prescriber. In this case there is a need to establish whether the dihydrocodeine is being prescribed for opioid dependency or for pain.

- if a client is planning to go ‘out of area’ and needs supervised consumption it is preferable that the agency involved in their care attempts to find a service prior to them turning up on your doorstep. This will ensure that clients are then only sent to pharmacists who are part of a scheme in a given area, are trained to provide a service and have contact numbers should any feedback be necessary. In addition any payments for supervision can then also be dealt with in advance, which eliminates a situation where pharmacists undertake the supervision, but do not get paid for it.

Part 2

What would you suggest?

The advice you may want to give the GP would include:

- dihydrocodeine is not licensed for the management of opioid withdrawal and should not be used for that indication. If the client needs a painkiller, paracetamol or NSAIDs are first-line therapy, but it should be noted that joint pains are one of the signs of opioid withdrawal.

- the dose of methadone is also very low; evidence suggests that doses need to be in the region of 60-120 mg to prevent the use of other opiates ‘on top’ and to keep the client in treatment, which then leads to better outcomes. For this client he should also be aware that carbamazepine stimulates the hepatic enzymes responsible for methadone metabolism, which results in reduced methadone levels; hence a higher dose than usual may be required. This and other significant interactions may necessitate the patient being referred to a specialist unit.

Part 3

Regardless of any intervention from you, the client will probably use on top, until his methadone dose is sufficient and it is important to ensure that he does the minimum harm to himself. The supply of paraphernalia, including citric acid and ascorbic acid, water for injection, filters, swabs and utensils is allowed for the preparation of a controlled drug/an illicit drug; however, pharmacists are advised to make these supplies as part of a locally commissioned and organised needle and syringe programme. The items in stock in a non-needle and syringe programme pharmacy may not be the most appropriate for a drug user; for example, citric acid is supplied through needle exchanges in single use sachets (preferably sterile), together with advice on how the acid can be used safely. Water for injections is a POM and can only be supplied to drug users in a volume of 2 mL or less (to minimise the chance that water will be shared). If your pharmacy does not provide a needle and syringe programme an alternative may be to direct the client to local drug services where they may get the items free of charge and where they may find an appropriate place to dispose of used needles.
Part 4
Ask Chris what has happened since his last visit. On this occasion you discover that he had a fit and was admitted to hospital. The hospital pharmacy confirms that he was a client engaged in treatment and prescribed a regular supply of methadone. In addition he was given a two-day discharge supply of methadone the day before, but they were not aware whether he had received a dose on the ward on the day of discharge. This highlights the need for effective and rapid communication between service providers. You should also contact the GP and/or the keyworker. Usually three or more missed doses would necessitate re-assessment; however, in this case, as the prescription only has two days left to run, the GP agrees to see him as soon as Chris returns home.

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Case study 9: Mrs Smith and her son Adam (page 123)

Part 1
This is an emergency, Adam could have taken the medicine and be unconscious. You need to take immediate action without unduly panicking his mother.

- Can she try phoning Adam or get back home very quickly?
- How did Adam get the medication? Is there a crime involved?
- The label has your pharmacy name so one of your patients must have lost or sold it – whose was it?
- Does Adam have a drug problem and need help?

Part 2
Advise her to go home immediately to check up on him, telling her to get help if he appears overly drowsy. It is unlikely he would admit to his mother on being first asked (out of the blue) if he has taken anything. If possible ask her to give you as much information as she can about the medication at a later date and to bring the bottle in if there is any doubt about Adam’s story.

Part 3
Initially you should offer sympathetic, empathic support as she is clearly very upset and angry. You can then inform her that addiction is a chronic-relapsing condition, but that patients in treatment can do very well and in fact that by providing a service you are helping to reduce the spread of infectious diseases and crime in the locality.

Part 4
Contact Ms Green’s GP and/or her keyworker. The rules of confidentiality can be broken where there may be a serious safety concern either for the client or for others. In some areas when clients agree to participate in a shared care scheme they also agree that clinical information about their care may be shared. The client can be put back on daily pickup or supervised consumption if necessary.

Part 5
It is vital that Ms Green gets antenatal care and she should go back to her GP who may be able to refer her to a specialist unit. Clinical evidence shows that the babies of mothers addicted to opioids fare much better when their mothers are on a methadone maintenance programme than when they are not in treatment. Banning clients from
treatment programmes should only be used as a last resort. While the client made a mistake, she had been doing very well and banning her from treatment exposes her to having to buy street drugs with all the risks and crime associated with that.

Pharmacists are likely to be the only professionals who see substance misuse clients on a daily basis and so are in a good position to advise other drug workers and GPs as to how they are doing, both clinically and behaviourally. You should ask Ms Green if she would like you to contact her keyworker and GP on her behalf, so that she can be seen sooner rather than later.

Part 6
Cannabis is not legal following its reclassification again in 2009 and as Adam is only 16 it is unlikely that even possession would be ignored. You could talk to him about the dangers of cannabis and the psychological effects it is associated with, or refer him to a service that can deal with it in more detail. You may also want to point him in the direction of a website aimed at young people, such as ‘Frank’. As Adam is already smoking cannabis, has tried stronger drugs and is mixing with others with an addiction problem, he is highly likely to get more involved and although he is not yet ready to admit there may be a problem, by offering non-judgmental advice and being able to signpost him to the appropriate place he may come to you when he is ready for help.
References


Exchange Supplies web page: *Paraphernalia supply and UK law – a complete history*


National Treatment Agency for Substance Misuse (2006). *Best practice guidance for commissioners and providers of pharmaceutical services for drug users.* Available online at:

*The Methadone Briefing.*
This book is available online on the Exchange Supplies website:

**Useful websites**

**For general advice and information on substance misuse**
Drugscope
http://www.drugscope.org.uk

National Treatment Agency for Substance Misuse
http://www.nta.nhs.uk

**Advice for clients and their families**
Adfam. A website supporting families affected by alcohol and drug use
http://www.adfam.org.uk/

FRANK
http://www.talk.frank.com

**Safer injecting**
Exchange Supplies
http://www.exchangesupplies.org/

Harm Reduction Works campaign materials
http://www.harmreductionworks.org.uk/

Injecting Advice
http://www.injectingadvice.com

International Harm Reduction Association
http://www.ihra.net/

National Needle Exchange Forum
http://www.NNEF.org.uk
UK Harm Reduction Alliance  
http://www.ukhra.org/index.html

UKHRA also hosts a harm reduction discussion forum on Yahoo groups. It is available to access by joining at:  
http://groups.yahoo.com/group/ukhra-discussion

Service provision
Pharmaceutical Services Negotiating Committee  
For links to LPC portals where many LPCs have posted documents relating to their local substance misuse services  
http://www.psnc.org.uk

Substance Misuse Skills Consortium  
http://www.skillsconsortium.org.uk

Alcohol
Department of Health Alcohol Learning Centre  
http://www.alcohollearningcentre.org.uk/

NHS Clinical Knowledge Summaries (type ‘alcohol’ in as your search criteria)  
http://www.cks.nhs.uk

Over-the-counter medicines
Codeinefree  
An online self-help group, with information for both members of the public and health professionals.  
http://www.codeinefreeme.co.uk

Smoking
NHS Choices: Smokefree  
http://smokefree.nhs.uk
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