Criminal justice sector prescribing

Graham Parsons works for the Plymouth Primary Care Addiction Service, specialising in treating opioid dependence. He describes how pharmacist prescribing in the criminal justice sector operates and gives tips to pharmacists who want to get involved.

You never forget the day you write your first prescription. For me, it was 27 April 2007 and the patient was a client of the criminal justice intervention team in Plymouth. It was nerve-wracking to undertake my first “stand-alone” intervention (although my clinical supervisor was in the room). Now it all seems second nature. My career did not start off very differently to many pharmacists. Following a preregistration year at Boots The Chemists in Chippenham, I moved to Devon and was appointed pharmacy manager in Newton Abbot. I continued my move south when I was appointed manager at a branch in Plymouth suburbs. After four years, I left Boots to become a locum pharmacist and it was during this time that I encountered “blue” prescriptions and realised that drug misuse was a problem in Plymouth. I decided I had to learn more to fulfill my professional duties and because I found it challenging, so I completed the Centre for Pharmacy Postgraduate Education distance learning programme “Opioids and associated pharmacists for improved patient care”. It became known that I had an interest in this area and, subsequently, most of my placements were at stores with high levels of substance misuse service users.

One day, while I was counselling a service user, the primary care lead for substance misuse, Charlie Lowe, came in to drop a prescription off. He overheard me giving what must have been competent general advice and invited me to lead the training for pharmacists and GPs providing supervised consumption and opioid prescribing services. This ad hoc session became a regular event and I supplemented my knowledge by completing the Royal College of General Practitioners Certificate in the Management of Drug Misuse — part 2.

In 2005, I was appointed medicines management adviser and a substance misuse specialist for Plymouth Teaching Primary Care Trust. Then, after discussions with Dr Lowe, I decided to submit a proposal to the drug and alcohol team to become a supplementary prescriber. This was accepted and in May 2006 I started a course at Bath University. In the same month, pharmacist independent prescribing became legal and our course was converted. In February 2007, I graduated as an independent prescriber and, two months later, I was working within the Primary Care Addiction Service (PCAS).

Working in the criminal justice sector

I run four clinical sessions for the PCAS, of which two are with the Criminal Justice Intervention Service. This service incorporates the skills of key workers, the police and the probation service, ensuring that service users who need treatment interventions get them in a timely manner. The aim is to reduce drug use and related offending within the criminal justice sector and service users access treatment through:

- Drug rehabilitation requirement (DRR)
- Targeted police referral
- Targeted police referral on release from prison
- Prolific and priority offenders referral

Drug rehabilitation requirement (DRR)

Service users are referred for treatment from the courts by court order. The treatment ordered consists of structured counselling sessions and twice weekly drug testing (usually oral fluid tests) for between six and 18 months. Failure to comply with the order can result in a custodial sentence.

Targeted police referral

Some service users are known to the police as offenders whose crimes are inherently drug related and are “invited” for treatment, usually for six months. This is a less stringent arrangement than DRR but full psychosocial support is still provided.

Prolific and priority offenders referral

Prolific offenders are identified by the police and fast tracked into treatment services (usually getting a prescription within 48 hours). The treatment programme can run indefinitely and involve weekly sessions with a key worker and twice weekly meetings with the prolific and priority offenders unit.

The challenge for commissioners and service providers is to ensure that all service users have equal access no matter what route into treatment they come by. Some people view criminal justice referrals as an unfair system, especially if a waiting list exists for people who are non-offenders. It is a complex argument and beyond the scope of this article but the fast track system is an agenda led by the financial aspects and social consequences of drug use. For example, in 2003/04 it was estimated that class A drug use cost around £15.4bn in England.1 Drug-related crime accounted for 90 per cent of this figure. For every £1 spent on treatment, at least £9.50 is saved in criminal and health costs.2

Treatment programme

Once people are referred to the service they are allocated a key worker and the first stage is a comprehensive assessment. This covers a range of issues from health and drug use to social aspects, such as housing, finance and child welfare, that may need to be addressed during treatment. A prescription helps to facilitate change but is only a small part of the treatment process.
Getting into substance misuse service provision

- Be proactive in managing service users in the pharmacy (eg, if you have concerns about a user telephone the key worker and express them — your name will get known).
- Attend multidisciplinary training events so you can network with other professionals in the substance misuse service.
- Contact your local prescriber committee and ask it to liaise with the drug and alcohol team commissioner regarding the role of pharmacists in the service, highlighting pharmacist’s unique skills and “value for money” as prescribers.
- Find out if there is a substance misuse specialist pharmacist in your primary care organisation and make him or her aware of your interest.
- Consider undertaking the Royal College of General Practitioners Part 2 Certificate in the Management of Drug Misuse (in addition to a pharmacy postgraduate learning pack).
- If you undertake a prescribing course ensure a post is discussed so you have an entry into the service when you qualify.

I have recently completed a mental health module from Bath University and I plan to start prescribing more psychotropic medicines. Initially, this will follow diagnosis by another member of the team and I will continue with the management of the prescription but, as I develop competencies, I hope to diagnose and manage service users with less complex mental health problems, such as generalised anxiety disorder and mild to moderate depression.

Challenges and joys

The greatest challenge as a pharmacist prescriber in this service is the multidisciplinary nature of the work. Within my role I have to liaise with the police, probation and prison officers, court officials, key workers, GPs, the hepatology department at the local hospital, midwifery services and mental health teams, to name but a few. This web-like picture of service provision and ensuring good communication with everyone was a culture change. I rely on the efforts of key workers and the support of my clinical supervisor to ensure I am on the right track. This is especially the case with child welfare issues.

I get a great deal of joy from seeing previously chaotic service users gain stability in their lives. This is often defined within the individuals care plan goals and may not mean being free of all drugs, including opioid substitutes. I have had service users who have achieved a drug free status, but there are others on maintenance prescriptions who and have managed to keep their children within the family unit or stay in full-time employment while abstaining from illicit drugs.

On a professional level, I enjoy being at the forefront of the evolution of pharmacy. I recall a colleague saying in 2005 that pharmacists would be able to prescribe CDs in the future. I said I doubted that would ever occur. By the end of 2009 I should be prescribing CDs independently (if the paperwork finally goes through the parliamentary process). Sometimes it is about being in the right place at the right time but if you want to be part of this evolution, I have written some tips to guide you (see Panel). Good luck!
Preconceptual care and advice

It is estimated that two thirds of pregnancies in the UK are planned. Would-be parents may well ask their pharmacist for advice on increasing their chances of conception and a healthy pregnancy. Debbie Barber focuses on the key issues.

Most people know that smoking or drinking alcohol while pregnant can put the health and future of a child at risk. However, activities before pregnancy can also have a bearing on a child’s health and the pregnancy itself, and can affect chances of conceiving.

Pharmacies supply folic acid and ovulation test kits, but the care offered can be much wider. The idea of preconceptual care is to enable primary promotion of the health and well-being of both the mother and child by identifying and reducing risks. For example, supporting weight loss in overweight women could help to reduce the incidence of gestational diabetes. Good preconceptual advice can also be helpful to those wishing to conceive.

Ovulation and conception

Two key factors that will influence the potential success of couples trying to conceive include knowledge of a woman’s menstrual cycle and frequency of intercourse. It is important that couples attempting to conceive are aware of these factors.

A woman will normally ovulate 14 days before her period, which in a 28-day cycle would be on day 14 but in a 32-day cycle would be on day 18. Cycle lengths can vary from 22 to 40 days. Cyclical changes indicating ovulation include:

- Thinning of the cervical mucus (to ease access of sperm)
- Abdominal pain ("mittelschmerz")
- Mid cycle bleed ("spotting")
- Increase in basal body temperature (by about 0.5°C)
- Luteinising hormone (LH) surge

Panel 1 (p168) describes the endocrine changes in the ovulatory cycle. A luteal phase rise in progesterone levels to greater than 30nmol/L also occurs and this is one of the most basic tests performed in fertility clinics to confirm that ovulation occurs.

Successful fertilisation is most likely to be achieved in the three days following the surge. Sperm lasts in the uterine tract for approximately five days and adequate frequency of intercourse will ensure it is present when an oocyte is released. Once ovulation has occurred, the sperm has only 24 hours within which to fertilise the egg in the woman’s fallopian tubes. It is advisable, therefore, to have intercourse the day before predicted ovulation and then on alternative days to cover the window of ovulation. However, many women are uncertain of their cycle lengths and may not be having intercourse at the right time. In addition, if a woman’s cycle is irregular then it is more difficult to predict when ovulation is likely. The LH surge can be detected in urine so women who are uncertain when ovulation takes place or have irregular cycles can use ovulation prediction kits to anticipate egg release (see Panel 2, p169).

Using basal body temperature as an indicator is usually not advised because it can be unpredictable and can often increase the stress (see below) on the couples trying to conceive. For some couples, timing intercourse to coincide with ovulation in itself can cause stress (see later) and perhaps the best advice is that sexual intercourse every two or three days optimises the chance of pregnancy.

Thinking about having a baby

Some experts believe that a woman should seek medical advice as soon as she is contemplating having a baby. Indeed, it is recommended that women begin to take folic acid daily when they are trying to conceive.

For some couples, timing intercourse to coincide with ovulation in itself can cause stress (see later) and perhaps the best advice is that sexual intercourse every two or three days optimises the chance of pregnancy.
CONTINUING PROFESSIONAL DEVELOPMENT

### Panel 1: Ovulatory cycle endocrine changes

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 7</th>
<th>Day 14</th>
<th>Day 21</th>
<th>Day 28</th>
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<tbody>
<tr>
<td>LH</td>
<td>Oestrogen</td>
<td>Progesterone</td>
<td>Basal body temperature</td>
<td>0.5°C</td>
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The hypothalamus regulates the female reproductive cycle. Gonadotrophin-releasing hormone pulses from it stimulate the anterior pituitary to release follicle-stimulating hormone at the beginning of the cycle. This triggers development of an antral follicle, which matures during the cycle. During maturation of the follicle the granulosa cells that surround the oocyte produce oestrogen and progesterone. Levels rise during the cycle. These hormones have an effect on the endometrium which thickens throughout the cycle.

Before ovulation, the luteinising hormone level increases rapidly, triggering oocyte release from the follicle. If implantation does not occur then the levels of oestrogen and progesterone decrease and this then, via negative feedback, triggers the hypothalamic pituitary pathway to initiate another cycle. If implantation occurs then the levels of oestrogen and progesterone increase and block the negative feedback loop.

A high stress level is linked with raised prolactin levels and this can inhibit ovulation.

#### Example

Blood tests can identify anaemia (which can then be corrected before pregnancy) and can be used to establish if thyroid function is normal (hypothyroidism can decrease fertility), and urine tests can identify diabetes. Although this type of care is uncommon in the UK, pharmacists may find it useful to be aware of the issues that could be examined or discussed where appropriate (see Panel 3).

### Body mass index

A normal body mass index (BMI) is between 19 and 24.9 kg/m², with overweight defined as a BMI >25 kg/m². Both being underweight and obese can affect fertility — a BMI of less than 19 or greater than 28 can inhibit ovulation.

The Department of Health has predicted that, by 2010, 25 per cent of women and 37 per cent of men will be obese. Distribution of body fat is an important marker for obesity and more indicative than body weight. Visceral fat is more metabolically active and an increased waist circumference (or hip:waist ratio) correlates more closely with risk and long-term disease. It has also been shown that increased abdominal obesity is linked with reduced menstruation and decreased fertility.

Obesity in women is also linked to polycystic ovary syndrome (PCOS), which is thought to affect up to 25 per cent of women. The syndrome is associated with insulin resistance, which is worsened by excess body fat, and an abnormal hormone profile (the level of LH can be two to three times that of follicle stimulating hormone). Other signs include irregular or no periods, acne and hirsutism. PCOS is a common cause of infertility problems. A key treatment is ovulation induction with the use of antioestrogens or gonadotrophin therapy but, before any treatment, it is crucial, where necessary, to reduce the BMI of any woman trying to conceive.

Losing weight can increase chances of conception — it improves hormone profiles and triggers ovulation. According to the National Institute for Health and Clinical Excellence participation in a group programme involving exercise and dietary advice leads to more pregnancies than weight loss advice alone.

Other risks associated with obesity are increased rates of miscarriage, congenital anomalies, omphalocele (herniation of abdominal contents into the umbilical cord) and neural tube and cardiac defects. The risks to the mother include gestational diabetes (see Panel 4), hypertension, thromboembolic disorders and problems during delivery.

Women who have a BMI less than 19 and who have irregular periods or are not menstruating should be advised that increasing body weight is likely to improve their chance of conception. A BMI of more than 29 in men is also likely to reduce fertility.

### Diet

Folic acid is an essential element of a woman’s diet before conception in order to reduce the risk of neural tube defects. The recommended dose is 400µg daily until the 12th week of pregnancy. The recommended dose for women who have previously had an infant with a neural tube defect or who are taking antiepileptic medicines is 5mg per day. Eating folate-rich foods, such as green leaf vegetables, fortified cereals and breads, and brown rice, is advised during pregnancy.

Iron is also an important dietary component in pregnancy because pregnant women are at increased risk of anaemia. Meat and pulses are good sources of iron.

Women planning to have a baby should include fish in their diet but limit the amount of tuna ingested due to increased levels of mercury. Vitamin A (eg, liver and fish oil supplements) should be avoided.

Foods to avoid in pregnancy include some cheeses such as mould ripened cheese, and paté, because it can contain listeria. Raw eggs and undercooked or raw meat should also be avoided. Shellfish can be consumed as long as it is properly cooked. This advice can also be applied before conception because food poisoning early in pregnancy can increase the risk of miscarriage.

Although there is no consistent evidence of an association between consumption of caffeinated beverages, such as tea, coffee and cola, and fertility problems, people who are concerned about their fertility may wish to reduce the amount of caffeine they consume.

### Lifestyle

Smoking has a negative impact on both female and male fertility. Many studies have identified that smoking can decrease tubal motility, increase the risk of ectopic pregnancy and reduce...
Panel 2: Ovulation prediction kits

Ovulation test kits identify the surge of luteinising hormone, which can be detected in the urine. Test sticks can either be dipped into urine or held midstream and results can generally be read three to five minutes later. Sticks have a reference band against which the test band is compared. A result band of less intensity than the reference or no visible band is a negative result; meaning that LH level is normal. More than one test is usually needed in a cycle—many kits contain around seven test sticks or strips although some women may need to test for more than seven days.

Testing is started towards the middle of the cycle. Women need to calculate when to begin and this depends on cycle length. For example, women with a 28-day cycle are generally advised to begin testing on day 11 or 12 (counting the first day of menstruation as day 1). For women whose cycle lengths vary, some manufacturers advise using the shortest cycle over the past six months to work out when to begin testing.

Unlike pregnancy tests, some ovulation kits are best used in the afternoon because the body produces LH in the morning, which will not appear in the urine until later in the day, although some manufacturers say that does not matter when in the day a test is performed. However, it is advisable to reduce fluid intake two hours before the test, to avoid diluting LH. Some manufacturers also advise women not to urinate for four hours before a test.

Testing at the same time each day is also recommended. Women should be advised to read individual kit instructions carefully.

Some medicines used for infertility can affect test results as can recent pregnancy and recreational drugs such as cannabis can reduce fertility. They can also reduce the number of oocytes recruited in any future in vitro fertilisation treatment.

Alcohol consumption can affect ovulation as well as harming a developing fetus, although there is less evidence for its effects on fertility than there is with smoking. Drinking no more than one or two units of alcohol once or twice a week and avoiding intoxication reduces the risk of harming a developing fetus. Women planning a pregnancy can also be advised of these recommended limits.

For men, alcohol consumption within the Department of Health’s recommendations (three to four units per day) is unlikely to affect fertility but excessive alcohol intake can be detrimental to semen quality. Even passive smoking can affect the chances of conception. In men, smoking is associated with reduced semen quality, although it is uncertain how this might affect fertility. Couples who smoke and wish to conceive could, therefore, benefit from smoking cessation programmes.

Recreational drugs such as cannabis can reduce fertility. They can also reduce the number of oocytes recruited in any future in vitro fertilisation treatment.

Panel 3: Checklist of preconception advice topics

- Body mass
- index/body fat
- Diet
- Medical history/general health
- Lifestyle
- Exercise
- Environment
- Medicines

Panel 4: Gestational diabetes

Gestational diabetes usually affects women in late pregnancy. Insulin resistance in the mother leads to high blood glucose and this is passed through the placenta, resulting in a baby of excessive birthweight (macrosomia). Mothers of these babies are more likely to have a difficult delivery and to need a caesarean section. Furthermore, these babies tend to be hypoglycaemic at birth (because the pancreas has been making extra insulin) and are at a higher risk of breathing problems.

Pre-eclampsia and premature labour are complications of untreated diabetes. Many women who have had gestational diabetes develop type 2 diabetes later in life. There is a suggested link between gestational diabetes and babies becoming obese children.
CONTINUING PROFESSIONAL DEVELOPMENT

Resources, the occasional dose of aspirin or ibuprofen is unlikely to cause fertility problems. People using medicines for chronic treatment should be advised to speak to their doctor.

Sexual health Chlamydia trachomatis is reported as being the most common cause of tubal infertility. Tubal damage is diagnosed in up to 50 per cent of couples presenting with infertility and causes great distress when diagnosed. Unfortunately for many, tubal surgery is not always a viable option and they require in vitro fertilisation to achieve a pregnancy. Chlamydia in men can lead to sperm death and impaired function, contributing to failure to conceive.

The highest rates of chlamydia are found in both men and women under 24 years of age. It is difficult to relate the long-term health implications of chlamydia to adolescents when initially infected, but it is important that they understand the damage that could occur if fallopian tubes are damaged by the infection.

Chlamydia infection rates are continually rising, and it is the most common bacterial sexually transmitted infection in the UK, with the Health Protection Agency recording 109,832 new diagnoses in 2005. With pharmacies now taking part in chlamydia screening and the availability of azithromycin over-the-counter to treat chlamydia, pharmacists now have a real opportunity to promote good sexual health and give valuable advice.

Women should ensure their cervical smears are up to date. I am increasingly seeing young women in the clinic with cervical cancer who have not had three-yearly smear tests.

Fertility People who are concerned about their fertility may also ask their pharmacist for advice. There are many myths around fertility, for example that wearing tight underwear improves fertility. People may find the following facts useful:

- Regular unprotected sexual intercourse will result in conception in 84 per cent of couples within one year. About half of those who do not conceive in the first year, will do so in the second year. The cumulative pregnancy rate is 92 per cent.
- Female fertility declines with age, but the effect of age on male fertility is less clear. With regular unprotected sexual intercourse, 94 per cent of fertile women aged 35 years and 77 per cent of those aged 38 years, will conceive after three years of trying.
- The effectiveness of complementary therapies for fertility problems has not been properly evaluated and further research is needed before such interventions can be recommended.

Infertility is defined as failure to conceive after regular unprotected sexual intercourse for two years and in the absence of known reproductive disorders. The treatment of infertility will be the subject of a future article.

It is important for pharmacists to be aware that, for some people, early referral for fertility screening may give them the best possible chance of conceiving. For example, because fertility decreases with age, women in their late thirties and over may benefit from early screening. Moreover, because different primary care organisations have different eligibility criteria for fertility treatments, including age limits, early referral may ensure that a woman does not miss her chance of treatment. Other factors that warrant early referral include history of pelvic inflammatory disease (and tubal damage) or ectopic pregnancy, PCOS and endometriosis. Women using ovulation kits and having unprotected intercourse accordingly for six cycles and who have not conceived could also be referred.

Conclusion Primary care professionals, such as gynaecologists, GPs and nurses may be involved in providing pre-conception care, but pharmacists can also make a contribution, particularly those with consultation areas. They can give valuable advice on measures to achieve overall improvements in health as well as addressing particular risks, where appropriate. However, to avoid causing stress, it is important not to be prescriptive.

Any lifestyle changes are often not made until a pregnancy is established and the woman has already missed a period. It is important that these changes are introduced before conception to ensure that both oocyte and sperm have optimal conditions before fertilisation and implantation take place.

Resources
- The National Teratology Information Service can be contacted for information on drugs and fertility (tel 0191 232 1525). The service is for healthcare professionals only.

Action: practice points

Reading is only one way to undertake CPD and the Society will expect to see various approaches in a pharmacist’s CPD portfolio.

1. Make sure your staff can advise on the correct use of ovulation prediction kits.
2. Think about how you would give preconception advice in a sensitive and non-prescriptive manner.
3. Find out about your primary care organisation criteria for fertility treatment.

Evaluate

For your work to be presented as CPD, you need to evaluate your reading and any other activities. Answer the following questions: What have you learnt? How has it added value to your practice? (Have you applied this learning or had any feedback?) What will you do now and how will this be achieved?

References

CPD articles are commissioned by The Journal and are not peer reviewed.