Why adherence is a sensitive issue

Nicola Gray and Gianpiero Celino look at how pharmacists can help patients struggling with adherence to their medication

Between one-third and one half of medicines prescribed for long-term conditions are not taken as intended. The consequences of this range from the inconvenient (eg, moderate pain) to the life-threatening (eg, graft rejection). It is an extraordinary challenge to improve clinical outcomes and reduce this medicines wastage, but it is also an opportunity for pharmacists. Although it is true that some prescriptions will not reach the pharmacy, the point of dispensing is a chance to make a difference.

Terminology
The NHS Service Delivery and Organisation Programme report “Adherence, concordance and compliance” concluded that the term “adherence” is the best to use in efforts to explore and address medicine-taking behaviour. It conveys a hope that patients take their medicines in accordance with an agreed “therapeutic experiment” between themselves and their prescriber.

“Compliance”, a common term, was not favoured because it implies no patient input. “Concordance”, often incorrectly used interchangeably with compliance, is a complex term, describing a process where discussion and negotiation take place to reach an agreement, but this may actually be not to take the medicine.

Adherence and compliance can both be measured as outcomes of interventions. Concordance describes the process by which adherence might be affected and, therefore, is not measurable in itself as an outcome.

It can be helpful to think of adherence as a spectrum. Most people show partial adherence to their drug regimen — total adherence or total non-adherence are less common. The realistic aim of any intervention should be to move people towards the more adherent end of this spectrum, recognising that everyone misses a dose sometimes.

There are two types of non-adherence: unintentional and intentional. Unintentional non-adherence (UNA) is more about practical problems — physical and otherwise, like memory loss or difficulty opening packages — that prevent someone from taking medicines as planned. Intentional non-adherence (INA) is based on a patient’s beliefs about the medicine (eg, whether or not it will work).

It can be helpful to think about these two types of non-adherence in terms of “can’t take” and “won’t take” (see Panel 1 for examples). However, the distinction between the two can sometimes be unclear and a mixture of intentional and unintentional non-adherence issues can affect the relationship that patients have with their medicines. For example, forgetting to take a medicine may result from lack of motivation to take it.

Factors affecting adherence
General factors that might reduce adherence include:

- Complex regimens involving multiple doses and several medicines
- Side effects
- Patients’ concerns about the value or appropriateness of taking medicines
- Denial of illness (especially among young people)

Panel 1: Examples of non-adherence

“Can’t take” (unintentional non-adherence)
- Difficulty opening the medicine container
- Forgetting to take a medicine
- Taking a tablet at the wrong time of day

“Won’t take” (intentional non-adherence)
- Missing a dose in order to do a prohibited activity (eg, missing a dose of metronidazole to drink alcohol)
- Reducing doses to avoid side effects
- Getting repeat prescriptions for reliever inhalers, but not preventers
Confusion or physical difficulties associated with medicine taking

The treatment setting (eg, hospital versus home)1,2

The nature of a condition may also present adherence challenges.3 Examples of condition-specific issues are provided in Panel 2 and recognizing these can help pharmacists to anticipate the questions patients might ask and the information that might need to be provided.

Increased non-adherence among older people tends to be linked to the complexity of their medicine regimens, rather than their age.

What pharmacists can do

Any effort made by a pharmacist to share information with patients and engage them in talking about their medicines has the potential to improve adherence. However, patients’ beliefs about their medicines are an invisible influence on their medicine-taking behaviour, which cannot be addressed without a discussion.

Identifying possible non-adherence

Patients who need help to adhere to their medication can present themselves at the pharmacy in different circumstances (over-the-counter purchases as well as prescriptions). On the other hand, pharmacists might have to look for these patients or encourage other health professionals or carers to refer them. Ways of identifying and measuring adherence include:3

- Third party impressions (eg, from a patient’s doctor or carer)
- Self-reported (eg, verbally, diary, survey)
- Calculations (eg, refill, pill count, compliance aid)
- Monitoring (eg, electronic container, blood level)

Methods vary in their level of reliability, and combining them is the best way to achieve an accurate measure.4 Pharmacists might, for example, look at compliance ratios in patient medication records for target medicines (see below), but it is only when that finding is combined with structured self-report, that the situation is seen more clearly.

Opportunistic identification

Panel 3 describes the case of a patient on the verge of not getting his firststatin prescription dispensed. Statin adherence decreases dramatically over the first three months of treatment,5 so it is crucial to take the time to speak to anyone presenting their first prescription, in order to achieve good adherence. Panel 4 concerns a hay fever sufferer who is rejecting a repeat prescription for a steroid nasal spray in favour of an oral antihistamine.

Both cases illustrate the complexity of situations and the importance of tailoring discussions to the needs of each patient. They illustrate how opportunistic intervention can be used to raise and then address motivations.

Panel 2: Examples of long-term conditions with adherence issues

- Asthma — acceptance or denial of the condition, misunderstanding the role of the preventer medicine, the variety of different inhalation devices
- Cardiovascular disease — lifestyle issues, such as timing of taking a diuretic to fit in with social activities or taking astatineach evening after a night out
- Depression — beliefs about the effectiveness of the medicine, side effects
- Menopause — side effects of hormone replacement therapy (eg,continuing bleed), fear of increased risk of cancer
- Diabetes — lack of confidence and support from others in managing the condition

Panel 3: Case study of a first-time statin user

Mr A, a man in his 50s whom you have not met previously, comes to the pharmacy with a prescription for a 28-day supply of atorvastatin, 10mg daily. He asks how much a prescription charge is these days, sighs heavily when told, and says that he will come back when he has enough change — or could he just buy it over the counter? Your technician, knowing that many people do not get their first statin prescription dispensed, asks if he would mind talking to the pharmacist.

You take him to the consultation room and say that he seems unhappy about his prescription and ask if there is anything other than the cost that is worrying him. He says he went to the GP a “normal man”, and has come out as a “patient with heart disease”. He never takes tablets and does not want to start now. His brother had a statin some years ago, but had to change it because he had bad pains in his knees.

Suggestions Several factors emerge during the discussion: disappointment about the diagnosis, influence of a relative’s bad experience and cost. Any of these could precipitate non-adherence. You could help Mr A to decide whether he should go ahead by encouraging him to think about the statin protecting him from a future heart attack or stroke, by telling him about possible side effects and by discussing the risks and benefits. You could encourage Mr A to return to share his experience of the medicine so that there is regular contact over the high-risk period for stopping therapy.

Targeted identification

Identifying patients who are most likely to benefit from an intervention is challenging. There are, however, tools that can help. Patients at particular risk of non-adherence include those on complex regimens or on a new medicine. These people may be identified through proactive use of the pharmacy patient medication records, or by systematic detection as a prescription comes in. Focusing on known problem medicines can help to concentrate the pharmacist’s efforts. Medicines use reviews also provide an excellent context for adherence promotion.

Partial adherence can be identified from the PMR system by calculating a compliance ratio over time. This reflects the actual dose ordered as a proportion of the dose intended. The ideal would be a ratio of 1, where dose ordered equals dose intended. Panel 5 shows two worked examples. However, there are several explanations for a discrepancy, for example, the patient might have some doses left from the previous supply. He or she may also have had to visit another pharmacy for an interim supply, for example, when on holiday.

Furthermore, a dose ordered is not necessarily a dose taken. On the adherence spectrum, a compliance ratio of 0.7 or above might be considered reasonable and realistic for many medicines. Other medicines (eg, oral contraceptives) may demand a higher level of adherence to produce the desired...
Panel 4: Case study of a long-term hay fever patient

Miss B was dispensed a beclometasone nasal spray during last year’s hay fever season after taking a non-sedating oral antihistamine for years. She comes in with a repeat prescription for the spray and sodium cromoglicate eye drops, saying she will take the eye drops, but she will buy a small pack of the antihistamines and leave the spray. She says that not only was it awkward to carry around, but she found that it did not really work. She used it when her symptoms started and gave up after a couple of days. The tablets had always worked much more quickly. She has just seen the advertisement on television for “the ones that work in 15 minutes”, so why not try them?

Suggestions You could explore why Miss B originally switched to the spray, and help her decide whether she wishes to try it again. She seems to have misunderstood how the spray works. Do not assume anything — she may even have thought that the spray was for oral use. Tablets might be a better option for this patient. There is no point having an expensive dispensed medicine at home that will never be used.

Panel 5: Calculating a compliance ratio from PMR

Example 1 Mrs C is taking bendroflumethiazide 5mg each morning. The prescription quantity is 28 tablets. She had a prescription dispensed on 8 January, then on 17 February, then on 22 March and 28 April. Assuming the patient took her first dose of the first prescription on 8 January, she took 84 days’ supply over 111 days (leap year), and the mean compliance ratio over three months was 0.76 (84/111).

Example 2 Child D should use a budesonide 200µg turbohaler, one puff twice daily. The prescription for one 100-dose unit (which should last 50 days at the prescribed dosage) is dispensed on 4 September and the next on 4 December. So 50 days’ supply was used over 91 days, producing a compliance ratio of 50/91, or 0.55.

It is important that improving adherence is not seen as a one-off intervention

It is, perhaps, not surprising that at least two tools have been developed in the context of mental health, where adherence lapses produce serious consequences, both for patients and those around them. In the BEMIB patients are asked to respond, using a five-point Likert scale, to INA and UNA statements, such as:

- Taking my antipsychotic medicine will make me feel better (INA)
- Getting my antipsychotic medicine from the pharmacy will not be a problem (UNA)
- Side effects from my antipsychotic medicine will bother me (INA)

Such tools could be used for a range of medicines to provide a starting-point to find out more about patients’ beliefs, and help them devise practical strategies for overcoming difficulties in ordering or taking medicines. They may also be helpful in monitoring a patient’s views over time in order to identify changes that might lead to non-adherence.

Improving adherence Helping patients modify their beliefs and commit to taking their medicine can sometimes uncover more practical unintentional non-adherence issues. It is important that improving adherence is not seen as a one-off intervention. There is a continuing need to evaluate a patient’s perspective and address issues as they arise. A patient who is reasonably adherent today may become less adherent in the future. It is also important to recognise that patients can choose not to adhere to one medicine’s regimen while adhering to another.

Some commentators have implied that not every pharmacist is suited to adherence counselling. Addressing adherence requires acceptance of the patient’s view, even when these might run counter to professional and scientific knowledge. For example, if a pharmacist believes that adherence is solely the patient’s responsibility, it might be hard to conceal this in a consultation. Pharmacists should reflect on their own attitudes to adherence while they think how to address adherence with their patients.

Information giving, in itself, is not likely to work unless the information is wanted and provided in the context of the patient’s beliefs. Points that can help to maximise patient benefit within an intervention include:

- The consultation must address the patient’s concerns about medicines (general or specific), so the patient should help to set the agenda, and the discussion should act on that agenda
- Simply reinforcing how and when to take a medicine is unlikely to work where a patient has a view that prevents him or her taking it
- The discussion should include explorations of symptoms and diagnosis (the condition and the medicine are not necessarily divided in the patient’s mind
Like other health-promoting behaviour, adherence is subject to external influences on the patient — pharmacists involved in smoking cessation or weight loss counselling will be familiar with the need to harness the patient’s desires to ensure a successful outcome.

The patient will be influenced by other sources of information about the medicine and condition, such as the media, internet and the experiences of friends and family.

The patient’s stage of involvement with the medicine influences the type of information required (for example, patients prescribed a new medicine want information about risks versus benefits and treatment choices, and those on long-term medicines tend to want information about side effects, and what to do if they experience one).

The pharmacist should be realistic about what is achievable.

Follow-up will be required because patients will need time to process the exchange and re-evaluate their views.

The pharmacy environment is also important. Many pharmacies now have private consultation areas and patients appear to respond well to a premises devoted to health and medicines, with a thoughtful layout, such as a tidy consultation area with no barriers to discussion (eg, chairs arranged to promote equal partnership and not separated by a desk).

The key to effective adherence-promoting interventions is finding out about all the factors causing non-adherence and then choosing appropriate strategies for the individual. For example, Mr A (Panel 3) might respond well to a premises devoted to health and medicines, with a thoughtful layout, such as a tidy consultation area with no barriers to discussion (eg, chairs arranged to promote equal partnership and not separated by a desk).

Encouraging patients to express what they want to achieve from the therapy and what doubts they have.

Providing oral and written information about benefits and risks.

Encouraging patients to think about the influence of other information they have had about the medicine (eg, from friends, relatives or the media).

Providing guidance on device use.

With the patient’s permission, talking to people who assist with their medicines about issues such as forgetfulness or difficulty opening containers.

Suggesting memory aids, such as reminder charts or monitored dosage systems.

Providing advice about reducing costs, such as prepayment certificates.

Explaining the repeat prescription system at the practice and pharmacy.

Individual patients may have different reasons why they do not wish to take a medicine so a structured action plan for each patient, reviewed on several subsequent visits, can be helpful. Attempts at persuasion will not work, and may damage the pharmacist-patient relationship.

The way in which pharmacists engage with patients’ concerns should promote concordance and trust. This has long-term benefits, even if it produces short-term frustrations. It is better to reduce waste and seek a new treatment if it promotes honesty and openness.

Checking adherence is an integral part of conducting a MUR but it is unlikely that all the issues can be sorted out in one review. Instead, a MUR can be seen as leading to a fuller service to explore adherence. However, and approaches such as MURs, create challenges for pharmacists in terms of time management, patient recruitment and communicating with other stakeholders. Promoting adherence thoroughly is, arguably, the natural role of the pharmacist, but it will create similar challenges.

**Looking forward**

Each of the home countries has a commitment to supporting people who take medicines long-term, for example, the chronic medication service in Scotland. The importance of promoting adherence is implicit within such support.

The recent White Paper “Pharmacy in England” contains specific references to a greater role for the pharmacist in promoting adherence. It states that pharmacy adherence programmes could help people when tailored to different conditions and tackling such issues as new medicines and side effects.

A programme of research to determine further causes of non-adherence and the action that needs to be taken to prevent ineffective use and wastage of medicines will be reported in 2009.

Pharmacists who understand the practical causes and implications of non-adherence will be well placed to perform a crucial role in this area.

**References**


**Resources**

A useful leaflet “Taking medicines — some questions and answers about side effects”, which includes an explanation of side effects, is available from the Medicines and Healthcare products Regulatory Agency (www.mhra.gov.uk; tel 020 7084 2000).

**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. Compile a shortlist of medicines, in addition to those mentioned in this article, that predispose to poor adherence. Explore unintentional and intentional non-adherence in first prescription counselling or MURs for patients taking these medicines.

2. Review your PIMR for patients with low compliance ratios.

3. Offer your local GPs a practice meeting about how you could help or are helping to improve patients’ adherence.

**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?