



# Monitoring the impact of 28-day repeat prescribing: do the benefits outweigh the costs?

28-day repeat prescribing has been gradually implemented across the UK from around 2002 onwards, to curb medicines wastage. However, relatively little attempt has been to monitor its impacts on pharmacy costs or patient compliance with long-term therapies. This document summarises our understanding of these issues, to suggest that:

- 28-day prescribing has resulted in avoidable expenditure on pharmacy dispensing fees and associated charges for patients with long-term medication dependencies. Upwards of **£450 million** per annum could potentially be saved by switching these patients to a three or six month supply where they are stable on their current medication regime.
- 28-day prescribing is adversely affecting patient compliance with long-term therapies, because a significant proportion of patients on a 28-day supply can be anticipated to run out of medication at some point.
- Some PCTs are disregarding advice from the National Prescribing Centre by applying a universal 28-day limit, despite guidance that prescription length should be tailored to the needs of the individual patient and that longer prescriptions may be more suitable in some instances.

Within the UK, it is a widely accepted view that 28-day prescribing is generally a good thing, because it limits medicines wastage - ie. medicines dispensed to the patient but not consumed<sup>1</sup>. Official estimates put the amount of medicines wastage at between **£100 million** and **£800 million** per annum.<sup>2</sup> However, this is based on an outdated estimate of the amount of medicines returned to pharmacists, an estimate from 1998 that pre-dates the introduction of important new measures to control prescription spending by Primary Care Trusts in the past six years or so<sup>3</sup>. To address this gap, the Department of Health has recently commissioned research from the universities of York and London on the extent of medicines wastage, which is due for release later in 2009.

From around 2002 onwards, Primary Care Trusts (PCTs) have, with the encouragement of the National Prescribing Centre, pursued three general measures for cost control on their pharmaceutical budget. These are:

1. Generic prescribing
2. 28-day prescribing
3. Regular medicines reviews for each patient

<sup>1</sup> This was well articulated by the Under-Secretary for Health Services, Ann Keen, in a Westminster debate on 10 June 2008. See: <http://www.theyworkforyou.com/whall/?id=2008-06-10a.58.0>

<sup>2</sup> See above citation

<sup>3</sup> The estimate of £100 million was based on a quarterly survey of community pharmacies in 59 health areas that was carried out by a waste services contractor and completed in January 1998. See [http://www.npc.co.uk/npc\\_publications/resources/gp\\_prescribing\\_support.pdf](http://www.npc.co.uk/npc_publications/resources/gp_prescribing_support.pdf)

## Monitoring prescription costs at PCT level

The impact of these three measures has been monitored in most PCTs with reference to overall pharmacy spending on wholesale drug costs, ie. Net Ingredient Costs (NIC). We have not been able to identify initiatives to monitor the impact of 28-day prescribing independently of generic prescribing and regular medicines reviews, such as the rate of unused medicines returned to pharmacies.

Indeed, it could be argued that much of the improvement in NIC control at PCT level has resulted from improved communication with GPs about the importance of prescription cost control, regardless of the specific measures implemented within the PCT to achieve this.

We are not aware of any initiatives to monitor counter-balancing costs associated with these measures. For example: the move to generic prescribing could be anticipated to see more frequent drug switching due to poor tolerance for the cheaper fillers used in some generics and an increase in the number of individually compounded prescriptions required for patients with severe intolerance to standard fillers such as povidone, lactose, gluten or maize<sup>4</sup>.

Nor are we aware of any PCT programmes to track the inevitable rise in pharmacy costs to dispense medicines on shorter repeats. The largest component of these pharmacy costs, the dispensing fee, is born centrally. A smaller proportion of the associated pharmacy charges is allocated to PCTs.

We made a preliminary attempt to identify the rise in pharmacy costs (dispensing fee and associated charges) in our earlier submission to the Gilmore review on prescription charging. (See insert). As far as we can establish, it would be possible to reduce spending on pharmacy charges by around one-third of the current **£1.36 billion**, by shifting to three or six month repeats for patients with long-term medication dependencies who are stable on their current regime<sup>5</sup>. This is most clearly illustrated in the endocrine field, where medication dependencies are typically life-long and



<sup>4</sup> Fillers vary from one generic product to another and controls on cross-contamination are not generally employed in the industry. For a discussion of these impacts, see for example:

- MA Gonzalo Garijo, JA Duran Quintana, P Bobadilla Gonzalez, and P Maiquez Asuero, **Anaphylactic shock following povidone**, *The Annals of Pharmacotherapy*: Vol. 30, No. 1, pp. 37-40, <http://www.theannals.com/cgi/content/abstract/30/1/37>
- <http://celiacdisease.about.com/od/medicalguidelines/a/medications.htm>
- <http://www.celiac.com/gluten-free/lofiversion/index.php/t48715.html>
- <http://ourworld.compuserve.com/homepages/stevecarper/medicine.htm>
- <http://no-corn.blogspot.com/2008/10/getting-medications-compounded.html>
- <http://cornfree.ca/meds.htm>

<sup>5</sup> In rough terms, 75% of all prescriptions are regular repeats, see [http://www.npci.org.uk/medicines\\_management/patients/repeatpres/resources/library\\_good\\_practice\\_guide\\_repeatprescribingguide\\_2004.pdf](http://www.npci.org.uk/medicines_management/patients/repeatpres/resources/library_good_practice_guide_repeatprescribingguide_2004.pdf)

This means that £1.02 billion of the current £1.36 billion spent on pharmacy costs is for long-term medication repeats.

If we assume that most long-term repeat prescriptions are currently similar in length to the levothyroxine average of 45 days and could potentially be extended to 3 months (84 days), it would be possible to reduce this £1.02 billion by a little more than 45%.

This is only a rough estimate. Some long-term repeat prescription items – such as levothyroxine – would be suitable for longer repeats of up to 6 months. Others – especially drugs that might be open to substance abuse – would be best kept on shorter repeats, on a case by case basis.



replacement hormone medications are cheap – costing as little as three pence for a levothyroxine tablet – with few opportunities for switching costs.<sup>6</sup>

Across the UK, the NHS spent **£31.9 million** on pharmacy charges for levothyroxine prescriptions, and **£38.4 million** on Net Ingredient Costs for these same levothyroxine prescriptions in 2007. In other words, for the standard 100mcg levothyroxine tablet, the Net Ingredient Cost per prescription item was just **£1.78**, compared to pharmacy costs averaging **£1.71** per item in England. The average prescription length on levothyroxine was just 6.5 weeks<sup>7</sup>.

Yet there are no potential switching costs for levothyroxine: there are no substitute drugs available. Therefore, there is no rationale for restricting repeat prescriptions on this medicine to the current 6.5 weeks average.

Some PCTs have devoted greater resources to communicating with their GPs about the need for prescription cost control and there are wide variations in the amount of flexibility that has been applied to their interpretation of the measures used to achieve this.

In 2007, the National Audit Office (NAO) identified a four-fold variation in the take-up of generic prescribing for statins, although this drug had only recently come off patent and take-up of generic alternatives could perhaps be expected to lag in some areas. It also identified a wide variation in the quantity of test strips dispensed to diabetics compared to the average proportion of diabetics across the UK population. However, the NAO report did not attempt to relate this variation in quantity of test strips to health outcome measures such as the rate of diabetic emergency hospital admissions or other indicators of poor diabetic control.<sup>8</sup>

### **Monitoring patient compliance with long-term therapies**

We are aware that PCTs have taken diverse approaches in regard to patient safety and associated health outcomes from the implementation of 28-day rationing. Some PCTs have stringently implemented ceilings on patient access to essential medicines and appliances. Others are more generous.

To take steroid-dependency as an example; this is an acute medication dependency, so that patients must take their medication two or three times daily at the right time of day. Patients will typically begin to feel unwell within hours of a missed glucocorticoid

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<sup>6</sup> In a 2004 study of Medicaid prescribing in North Carolina, the proportion of patients on long-term medication switched to alternative drugs between repeats, thus incurring wastage, was estimated at: 9.4% for anti-ulcer drugs; 8.1% for anti-psychotics; 3.5% for NSAIDs; 2.6% for ACE inhibitors; 1.0% for SSRIs; 0.8% for sulphonylureas. See *insert*.

"Wastage final  
AJHSP 2004.pdf"

<sup>7</sup> British Thyroid Foundation survey 2008 (N=2551), <http://www.endocrine-abstracts.org/ea/0019/ea0019p345.htm>

<sup>8</sup> National Audit Office, *Prescribing Costs in Primary Care, 17 May 2007*, see <http://www.nao.org.uk/news/0607/0607454.aspx>

(hydrocortisone) dose<sup>9</sup>. They will be extremely unwell within a few days of running out of medication and are unlikely to survive more than seven days without their essential steroid medication.

One PCT specifically exempted steroid-dependent patients from the 28-day limit on repeat prescriptions and went through its records to ensure that all steroid-dependent patients were placed on a three-month supply. It also contacted these patients individually to ensure they had an up-to-date supply of emergency injection materials and were trained in how to self-inject in extremis. (*See insert.*)

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PAGE3.pdf"

Other PCTs acknowledged the life-threatening nature of steroid dependency by advising the Addison's Disease Self-Help Group (ADSHG) that such patients should arrange with their GP to retain a month's reserve supply at all times, while declining to exempt these patients from the 28-day limit. (*See Appendix B*). These PCTs did not attempt to contact steroid-dependent patients on their registers (or their GPs) to ensure they were aware of the recommendation for a month's reserve supply.

Little information is available as to how frequently patients on a 28-day supply run out of medication. The British Thyroid Foundation surveyed its members in 2007/8 to ask how many were affected by 28-day rationing. This survey found that around one-third of all thyroid patients were affected by the 28-day limit and that this 28-day limit has caused around 17% of all thyroid patients to run out of their essential levothyroxine medication at some stage<sup>10</sup>. In other words, perhaps half of those on a 28-day supply had run out of their essential medication at some point. Levothyroxine dependency is not acute, and it may take up to seven days before patients will feel ill as a result of going without their medication.

The ADSHG has not surveyed its members on this issue, but has received numerous reports from its members where they have come close to or have, in fact, run out of one of their essential steroid medications, despite their best efforts. This has occurred through circumstances such as manufacturing breakdowns or production shortages, disruption to wholesaler and retail supplier chains, order and delivery delays at a retailer level, or even just the intervention of a long weekend in the process of ordering the repeat. (*See Appendix A*).

For preventative medicines such as statins and antihypertensives – medicines which are clinically indicated for long-term therapy for the prevention of acute cardiac problems but are not essential for life – there is no evidence as to the proportion of patients who routinely skip doses because they have failed to collect their next 28-day supply before they run out, or who have ceased taking it altogether because of the inconvenience of renewing their prescription every 28 days. It is probably fair to say that this proportion is

<sup>9</sup> Glucocorticoid medication dependency is the most acute. Mineralcorticoid (fludrocortisone) dependency is less acute and it would usually take about 48 hours before patients feel unwell if they run out. However, mineralcorticoid inadequacy is associated with life-threatening adrenal crisis, especially in hot weather. See <http://www.endocrine-abstracts.org/ea/0015/ea0015p308.htm>

<sup>10</sup> See <http://www.endocrine-abstracts.org/ea/0019/ea0019p345.htm>



likely to be higher than for essential replacement therapy such as levothyroxine, where around half of those on a 28-day supply had run out at some point.

### **National policy guidelines on prescription length**

The British Thyroid Foundation survey suggests that around one-third of PCTs have implemented a universal 28-day restriction on repeat prescriptions. But the Department of Health has never indicated that this is advisable<sup>11</sup>. The most recent advice from the National Prescribing Centre, which re-states its position that prescriptions of longer than 28 days may be most suitable for some patients, is quoted in full, below.

#### **Balancing the patient perspective against the need to reduce drugs wastage**

The Parliamentary Accounts Committee in its 2008 report *Prescribing costs in primary care*, estimated that unused and wasted drugs cost the NHS at least £100 million a year. The Department of Health has commissioned research into medicines waste and the complex and varied reasons why people don't take their medicines as intended, a report will be released in 2009. Meanwhile the Department is keen to minimise the losses due to medicines waste because they represent a direct loss to patient care.

The NHS has adopted a range of measures, involving prescribing and dispensing practice, to meet this objective. However, it is also important to ensure that the patient's perspective is considered when making decisions about prescription duration. Many prescribers, as a matter of policy, now routinely write prescriptions for 28 days. However, where patients have stable long-term conditions, and can manage their stocks of medicines effectively, prescriptions for longer periods may be more suitable and more convenient for patients. In determining how much of a medicine to prescribe, prescribers should first ensure that the prescription meets the clinical needs of the patient.

However, it is important that the views and circumstances of the patient are considered when decisions are taken about their clinical management. Factors to take into account when considering prescription duration for individual patients as exceptions to the usual prescribing policy include:

- stability of the patient's condition and how often their clinical management is to be reviewed
- the risk of important side effects and hence the need for more frequent monitoring (taking into account the patient's clinical history)
- how likely it is that the patient will take the medicine as they intended
- safety considerations associated with storing the particular medicine in the home
- patient convenience including, where relevant, cost in prescription charges

#### **Medicines, Pharmacy & Industry Group**

#### **Department of Health**

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<sup>11</sup> See for example, [http://www.npci.org.uk/medicines\\_management/patients/repeatpres/resources/library\\_good\\_practice\\_guide\\_repeatprescribingguide\\_2004.pdf](http://www.npci.org.uk/medicines_management/patients/repeatpres/resources/library_good_practice_guide_repeatprescribingguide_2004.pdf)



## Appendix A: Patient reports of the impacts of 28-day rationing and drug shortages on essential steroid medication

### To whom it may concern

I am willing to make a statement regarding the refusal of my surgery to give me more than a 28-day supply of medication.

The problem with such a short supply is when one is ill and taking double or treble the normal dose; the tablets run out very quickly and when ill it is easy to run out without realising it. Luckily I have a husband, also we live in a village which has a chemist quite close to us, and my husband has been able to get an emergency supply without a prescription in these circumstances. If I were alone or if we were both ill at the same time, I think it is quite possible that I could have just gone into a coma and died.

The chemist has recently been taken over and the new pharmacist is not willing to give an emergency supply without a prescription, so to get round the problem I have had to resort to lying and saying that I am going on holiday to get some tablets in advance, so that I have a bit of a reserve but this is still not really satisfactory and I don't see why I should have to lie.

There have also been occasions when the doctor has been tardy in getting the prescription written. I ring up to re-order and the chemist picks up the script, but often up to 3 days later the script has not been supplied and has had to be chased up.

I have pleaded with the doctors but have always had an outright refusal – “it's not policy” – and had it pointed out the cost there would be if I (and others) were to die with 3 months supply of medication untouched!<sup>12</sup>

I have raised this issue at the Health Improvement Forums held by my district council and lobbied the PCT but to no avail.

If the group could get this nonsense changed it would be a big relief.

Best wishes

**Pat Dore**

### To whom it may concern

I suffer from Addison's disease and on numerous occasions found it difficult obtaining my medication due to the 28 day limit on prescriptions.

I have ordered my medication from the GP's surgery and have experienced difficulties when the chemist had no stock of hydrocortisone and/or fludrocortisone. Another example where I have had problems is when I go into crisis and have to take more hydrocortisone for a period of time, the stock you have at home obviously does not last as long as it should.

Another difficulty for me is that my GP's surgery is quite a drive from my house and getting back and forth whilst juggling work, school runs, family life and of course Addison's disease is

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<sup>12</sup> The Net Ingredient Cost of an average three-month (84-day) supply of replacement steroid medications, including cover for illness, is just under **£15**. This allows for hydrocortisone, fludrocortisone and Efcortisol supplies, see [www.bnf.org](http://www.bnf.org) for prices, although it does not include the cost of needles and syringes for the Efcortisol.

In practice, most patients require emergency treatment with Efcortisol infrequently, so that the biennial issue of a 5-vial pack costing £4.48 is sufficient, ensuring they have sufficient in-date materials to allow for breakages or spillages during self-injection. But a few patients, especially those with associated conditions such as diabetes/asthma, are more unstable and regularly experience a life-threatening adrenal crisis. See <http://www.endocrine-abstracts.org/ea/0019/ea0019p318.htm>  
<http://www.endocrine-abstracts.org/ea/0015/ea0015p308.htm>  
<http://www.endocrine-abstracts.org/ea/0013/ea0013p113.htm>



no easy task. So making a journey purely to renew a prescription is both time-consuming and stressful, which when you suffer from Addison's disease can cause illness in itself.

It would be of a great benefit, not to mention safer, if the prescriptions available were six monthly supply. I hope you will consider taking appropriate actions for me and all the other people unfortunate enough to suffer from Addison's disease.

Many thanks

**Elizabeth Holland**

#### **To whom it may concern**

I had dreadful problems getting my Florinef prescription during 2005 – 2006.

My pharmacist told me that her supplier was having difficulties in getting my medication, so I gave her the Squibb's telephone number and she passed this on to her supplier. This did eventually help. However, the problem persisted over a period of four to five months and I had a problem each month I went for my medication.

My own supply became depleted and I ended up with around 15 days worth of tablets left at one point and I was starting to get concerned. This is unacceptable especially when it is so vital for life and for us Addisonians to function well in our daily life.

Best wishes

**Jan Snaith**

#### **To whom it may concern**

In March 2007 manufacture of 10mg hydrocortisone tablets temporarily halted and both UK wholesalers were out of stock. Merck Sharp & Dohme, the UK's sole manufacturer, were unable to give a date when production of 10mg tablets would recommence.

Although 20mg tablets can readily be split into 10mg x 2 with a pill splitter, it is very difficult to split them down again into an accurate 5mg dosage. I was able to fulfil my daughter's prescription for 10mg tablets by phoning around the pharmacies and after six calls found three different suppliers who could between them make up her prescription. The GP then reissued the prescriptions to match the availability at the different pharmacies. Subsequently, we discovered that a larger branch of Boots could provide five of the six boxes of hydrocortisone prescribed, so in the end had to drive to two different towns (two round trips of an hour) to fulfill the prescription.

As we try and reorder hydrocortisone when we get down to a month's supply, we had about a month before we would have run out unless she had an illness and needed more.

Regards

**Anne Sharman on behalf of Pippa (Philippa) Sharman**

#### **To whom it may concern**

I live in Buckinghamshire and have had a medical exemption certificate for the last 18 years. My surgery has been issuing repeat prescriptions on a monthly basis only, for three or four years now. It's a bit of a nuisance because I work 30 miles away and as they operate their own dispensary and won't give me a prescription to take away I have to make special arrangements every time I need to pick up my tablets.

Kind regards

**Bee**

#### **To whom it may concern**

I have been on monthly prescriptions from the outset of my diagnosis and was finding it increasingly difficult to juggle with travel overseas or around the UK. (I work in international development). I went to see my doctor about it and she was very sympathetic.



My GP now gives me three monthly scripts at a time, with each separate script for one month's medication, thus presumably meeting the 'month only' requirement of the PCT. I take these to different chemists depending on where I am, fitting this around my travel schedule.

All good wishes,  
**Mary**

#### **To whom it may concern**

My hydrocortisone and thyroxin have to be specially manufactured as *lactose free*. These are expensive and can take six weeks to arrive. Obviously, not having the tablets is not a life-affirming option.

I explained to my GP that the tablets were cheaper if ordered in larger quantities and that additional hydrocortisone would be required for illness, when necessary. So this has not been a problem for me but I have a wonderful GP. I think for drugs that will be required for life, the administrative costs to having three month's supply at once would make better economic sense.

#### **Fiona Christopherson**

##### **Message on the ADSHG discussion board**

I don't know if anyone else is having this problem at the moment but I put my prescription in with my usual chemist for my hydrocortisone and almost a week later I am still waiting for it. Fortunately my endocrinologist and my doctor do allow me to have a month's supply of hydrocortisone in hand. I am now having to use this until I can get my supply for my chemist.

Apparently there is a manufacturing problem which is why I cannot get them. I have tried a couple of other chemists in the area and they seem to be awaiting a delivery as well.

I live in Surrey. Does anyone else have any problem with getting hydrocortisone?

Regards

**Annette Speaks**  
**April 2007**

##### **Message on the ADSHG discussion board**

I put in a prescription this Monday, with Boots, for hydrocortisone tablets. When I went back they hadn't got enough tablets for me. I went back again today, Thursday, to collect the tablets owing and they had been unable to obtain any for me. They had some 20mg hydrocortisone so gave me all they had but they still owe some tablets. The pharmacist was saying that there is a problems with Glaxo so thought I had better warn everyone.

**Eileen Walker**  
**April 2007**



## Appendix B: PCT correspondence endorsing a universal 28-day limit on repeat prescriptions

Dear Katherine,

### **28 prescribing and patients with steroid dependence**

Thank you for your letter to Laurence Tennant, our former Chief Executive, which was passed to me for consideration. Firstly can I thank you for your considered approach to this issue and the clearly defined argument you provide for longer prescribing intervals in patients with hypoadrenalism.

You are correct that this PCT promotes 28 day prescribing in line with national guidance. However it is not only because of the waste issue but to encourage more regular review of patients in an era when more patients are receiving multiple therapies on a regular basis.

Although 28 day prescribing is preferred the PCT recognise that in certain circumstances it is appropriate to give longer intervals and in Coventry the average prescribing interval is around 35 days.

I fully understand why you are suggesting regular 90 days supply for patients with Addison's Disease but there are two other ways of dealing with this which I hope you will see as suitable alternative strategies.

Firstly there is no reason why a patient should not receive regular 28 day prescriptions but also, when necessary, a one-off prescription for the replacement therapy to be kept as a "buffer". I agree that in general these medications are less costly than most medications but I should stress again that 28 prescribing is just as much about regular review of the patient as waste reduction.

Secondly, and perhaps a better option, is the system called Repeat Dispensing. Coventry was a pilot site for this programme which is now a part of community pharmacists' normal contractual framework. Repeat dispensing allows a GP to generate prescriptions for up to 12 months for any patient with a stable chronic illness, which the patient then lodges with their preferred pharmacy. Each month the patient then goes back to the pharmacy for their supply rather than requesting another prescription form their GP. The advantage of this scheme is that if the patient does need to raise their steroid

usage, for example, at times of acute illness, the pharmacist can dispense the next prescription early without having to refer back to the GP. The scheme is very flexible and patients are very positive about it in surveys we have carried out.

Currently over 50% of our practices are in the repeat dispensing scheme and more are coming on board each month. I envisage that by the end of 2005 more than 75% of practices will be involved in repeat dispensing.

I have enclosed the patient leaflet that explains the scheme. Patients with Addison's Disease would be wholly suitable for repeat dispensing and indeed some are already benefiting from it in Coventry.

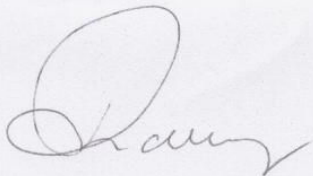
On the issue of the £6.40 prescription charge, this does not reflect the administration costs of issuing a prescription. It is a levy which contributes to the overall NHS fund without reflecting the cumulative costs of the medicine, its dispensing or the administration of the prescription at the Prescription Pricing Authority (PPA). Therefore the prescription charge issue should not impact on this debate.

With regard to the annual prescription of injectable steroid for hypoadrenalism patients I will take this to the June Prescribing and Medicines Management Sub-Committee and subsequent Professional Executive Committee for discussion and get back to you with the PCT's response in due course.

I hope that I have been able to allay any fears you may have about the patient groups you represent. I believe that there are ways of addressing the concerns you have whilst still promoting 28 prescribing as the best approach both in terms of patient care and reduced prescribing wastage.

If you have any further concerns or need any further clarity around the issues I have raised please don't hesitate to call me at any time.

Yours sincerely



Mark Galloway  
Head of Medicines Management

