



Medicines Waste:

A report on the root causes of medicines waste and recommendations for addressing the problem.

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1 DEFINITION

A waste medicine can be defined as any medicine that is prescribed and dispensed but not taken correctly to achieve the intended therapeutic outcome. These can be medicines that patients do not take at all, but also include medicines that patients take infrequently or not as intended, whether intentionally or unintentionally¹.

2 EXECUTIVE SUMMARY

Introduction

The National Health Service (NHS) like all other public sector organisations has a responsibility for cutting waste and increasing productivity². Every penny spent on wasted medicines is money the NHS cannot spend on patient care or improving health services. Knowing the root causes of prescription medicines waste would help Clinical Commissioning Groups (CCGs) develop and implement strategies for reducing the problem. A member of the Medicines Management team at Bristol CCG was seconded to investigate the root causes of medicines waste in Bristol and make recommendations to the CCG on ways to reduce the problem across primary care. The findings of this investigation and the recommendations made are outlined in this report.

Background

Medicines are the most common intervention in healthcare and play a crucial role in maintaining health, preventing illness, managing chronic conditions and curing disease. Optimising medicines use is becoming increasingly important for both patients and the NHS to improve patient outcomes and medicines safety, and to reduce waste^{3,4}. The national problem of prescription medicines waste is already well established with previous research highlighting a number of factors contributing to the problem; such as poor adherence to medicines regimens⁵, suboptimal prescribing and dispensing processes, changed or discontinued medicines, illness recovery, care system failures and patient death⁶. Furthermore, it has already been identified that prescriptions are often generated in an inappropriate working environment, with prescription clerks often having to make judgements on issues that are above their level of knowledge⁷. The gross annual cost of NHS primary and community care prescription medicines waste in England has previously been predicted as being in the region of £300million per year⁶. The number of repeat prescriptions being issued is rising⁸ and prescription volumes increased by 11% between 2010 and 2014⁹. It is reasonable to assume that the amount and overall cost of medicines waste in primary care has also increased.

Methodology

Over a period of one year the entire prescription medicine supply pathway in primary care in Bristol was investigated, including all stakeholders involved in the request, issue, dispensing and administration of prescription medicines. Several methods were used to identify the root causes of medicines waste including audits, surveys, interviews, meetings, group discussions, shadowing and 'mystery shopper' observations.

Issues of concern

The root causes of prescription medicines waste in Bristol fit within the following categories:

1. Lack of awareness about medicines waste

- Stakeholders not recognising the scale of the problem, how they contribute to it, or how they could work differently to reduce it.

2. Suboptimal communication between stakeholders

- A lack of communication and poor information transfer between stakeholders were found to be significant contributory factors. Patients are not receiving enough information about their medicines or non-pharmacological alternatives to improve their health. General Practitioner (GP) practices and community pharmacies are either not sharing or not making the best use of information they receive regarding patients' concordance with their medicines.

3. Systems of work

- Unnecessary and/or inappropriate prescription requests from patients, dispensing appliance contractors (DACs) and community pharmacies are resulting in excess workload, medication stockpiling in patients' homes and medicines waste. A lack of thorough scrutiny over repeat prescription requests was often observed in general practice; attributed to a lack of practice staff time and formal prescription clerk training.
- A number of factors were found to inappropriately influence the decision to prescribe medicines including the quantities prescribed. High prescribing quantities of 'when required' medicines were identified, although patients reported preferring lower quantities to allow them to judge their therapeutic benefit before requesting more.
- DACs were found to hold too much influence over prescribing decisions. Not having a stoma and continence formulary across primary and secondary care and a lack of GP knowledge around stoma and continence appliances is resulting in excess appliance prescriptions being requested and issued.
- Changes to patients' medication regimens could be better communicated to them to enhance their concordance with their medicines.
- Prescribing and dispensing errors were found to reduce patient concordance with medicines and potentially put patients at risk of harm.
- Carers and nurses working in care homes and care homes with nursing (CHwN) lack sufficient knowledge and training around medicines; leading to low staff confidence around medicines handling and suboptimal medicines management in the home.
- The loss and subsequent disposal of patients' own medicines in hospitals was found to cause a lot of discontent amongst patients.

4. Patient and carer factors

- Patients need more education and support with ordering their medicines as a fifth of patients gave a reason other than 'need' for requesting all their medicines each time (Study 'B', Appendix 2). Many of the patients interviewed reported there was no thought process behind their prescription requesting. Medication stockpiling is causing patients and carers a lot of confusion and is resulting in medicines not being taken correctly.

- Domiciliary carers need training in medicines administration. Patients with long term conditions and those who are older and/or housebound were found to have limited or no access to medicines-related advice and support. Valuable opportunities to optimise medicines concordance and prevent medication stockpiling and waste are being missed by not supporting these patients.

The environmental impact of medicines waste is worrying, with Wessex Water Services Limited confirming that local sewage and river water is contaminated with pharmaceuticals as a result of people putting medicines down sinks and toilets. Avon Wildlife Trust has reported reduced levels of wildlife because of this contamination. It should be emphasised that the *drinking* water in Bristol is safe.

Every year NHS England spends in the region of £450,000 on the disposal of wasted medicines from community pharmacies in the local and wider Bristol area, but this figure could be reduced if medicines are disposed of correctly. The annual cost of primary care prescription medicines waste in the Bristol CCG area is estimated as being at least £5.7million per year. This figure is based upon the estimated medication concordance of patients in Bristol who have been prescribed medicines to treat chronic conditions. With medicines waste initiatives in place, Bristol CCG might expect to observe a recurring annual cost saving of at least up to £2.8million per year.

Discussion

Too much time, money and effort is being wasted on the supply and disposal of unused prescription medicines. Money spent on wasted medicines would be better spent on patient care and implementing new services. The continued generation of repeat prescriptions (especially for 'when required' medicines) is causing too much unnecessary work for GP practices. Reducing prescription generation would significantly reduce this problem and also reduce medication stockpiling, medicines waste, CCG expenditure on prescription medicines and waste disposal costs. Prescription requests need greater scrutiny, regardless of whether they are received from community pharmacies, DACs or patients. The responsibility for the supply of stoma and continence appliances should transfer over to specialist nurses, to enable enhanced prescription scrutiny and to reduce the inappropriate requesting of these products.

Focus should shift towards illness prevention and self-care, with patients feeling empowered to take more responsibility for their health and wellbeing. This needs to be supported with information and resources in local communities and adequately commissioned social prescribing alternatives.

Valuable opportunities are being missed to improve patient care and reduce medicines waste by enhancing patient concordance with medicines. Patients need to receive more information about the benefits of their medicines. Older, housebound and those patients with long term conditions need the most support with their medicines. Patients do not receive therapeutic benefit from medicines they are not taking, and this leads to poorer health outcomes and additional demands on the healthcare system. Enhancing communication links between GP practices and other healthcare professionals across primary care would reduce this problem.

Domiciliary carers, care homes and CHwN staff lack skill, confidence and training in medicines administration. Developing a Medicines Management Framework and

commissioning an ongoing medicines training programme will reduce medicines waste and promote optimal medicines management.

Keeping patients' own medicines safe in hospitals will prevent the inappropriate disposal of medication and the workload and costs associated with resupplying them. It will also help to enhance patient concordance with their medicines.

Research is needed to investigate the root causes of prescribing and dispensing errors in primary care to prevent the risk of patient harm and reduced medication concordance. Local academics and researchers may be interested in undertaking or evaluating this research.

Unless waste reduction becomes an ongoing feature of future CCG work plans the problem will only get worse. The findings of this investigation should be a driver for change. If the recommendations in this report are implemented patient care will improve, medicines waste will reduce and the local NHS will be more financially sustainable.

Conclusion

The implications of medicines waste are significant. Wasted medicines reduce patients' health outcomes, drain valuable NHS resources and place a huge burden on health services across primary and secondary care. Medicines waste is everybody's problem and all stakeholders involved in the supply and administration of prescription medicines need to have a raised awareness of the problem and take responsibility for preventing it.

Recommendations

1. Raise awareness of the problem of medicines waste
2. Support GP practices with optimising their prescription management
3. Reduce prescribing to reduce waste
4. Support self-management and social prescribing
5. Improve the management of prescription requests in community pharmacies
6. Improve communication between GP practices and community pharmacies
7. Provide more information for better concordance
8. Promote optimal medicines management in care homes
9. Implement a pharmacy technician-led Medicines Support Service
10. Transfer the prescribing of continence appliances
11. Transfer the prescribing of stoma appliances
12. Reduce prescribing and dispensing errors
13. Improve the safekeeping of medicines in secondary care
14. Provide guidance, training and support to healthcare workers
15. Ensure medicines waste remains high priority

3 INTRODUCTION

The National Health Service (NHS) like all other public sector organisations has a responsibility for cutting waste and increasing productivity². Every penny spent on waste in the NHS is money not spent on patient care or improving health services. To ensure high quality, seamless care and allow valuable NHS resources to be redistributed elsewhere in the healthcare system, it is vital that the NHS continuously seeks to identify the root causes of waste. Knowing the root causes of prescription medicines waste in primary care

would help commissioners develop and implement strategies for reducing the problem; ensuring high quality, evidence-based and cost-effective use of medicines.

The Medicines Management team at Bristol Clinical Commissioning Group (CCG) recruited a Medicines Waste Project Manager to investigate the problem of medicines waste locally and identify the root causes. The findings of this work are documented in this report along with a series of recommendations which, if implemented, will reduce the volume of prescription medicines waste generated each year. This will subsequently reduce the patient, financial and environmental costs associated with wasted medicines, helping the CCG to achieve a sustainable healthcare system. It is anticipated that this report will also be of interest to healthcare providers seeking a better understanding of how they can make changes to their systems of work to prevent medicines waste occurring and provide the best possible care and service to patients.

4 BACKGROUND

Medicines are the most common intervention in healthcare and play a crucial role in maintaining health, preventing illness, managing chronic conditions and curing disease. In light of the current economic pressures on the NHS, getting the most from the investment in medicines (known as 'medicines optimisation') is becoming increasingly important for both patients and the NHS as more people are taking more medicines. Optimising medicines helps patients to improve their health outcomes, take their medicines correctly and avoid taking unnecessary medicines. This results in improved medicines safety and reduced waste^{3,4}.

The national problem of prescription medicines waste is already well established. Previous research has indicated that around 38% of all medicines prescribed for long term conditions are not taken as recommended due to patient non-adherence, with 55% of patients not realising they are taking their medicines incorrectly⁵. This leads to poorer health outcomes for patients and increases the demand for additional healthcare interventions and acute services to improve patient health. Other established contributory factors to medicines waste include suboptimal prescribing and dispensing processes, changing or discontinuing medicines, illness recovery, care system failures, the progression of illness and patients passing away resulting in unused medication⁶. It is acknowledged that not all waste is preventable, but there is certainly a lot of scope to reduce the problem.

In 2010 York Health Economics Consortium and the School of Pharmacy, University of London, concluded that the gross annual cost of NHS primary and community care prescription medicines waste in England is in the order of £300million per year. This figure represents approximately £1 in every £25 spent on primary care and community pharmaceutical and allied products use, and 0.3% of the total NHS outlay. It includes around £90million worth of unused prescription medicines retained in people's homes at any one time, £110million returned to community pharmacies over the course of a year, and £50million worth of NHS supplied medicines that are disposed of unused by care homes⁶. This demonstrates the urgent need for all CCGs to investigate ways they can reduce medicines waste in their area.

Repeat prescribing accounts for 60-70% by cost and 80% by volume of prescription items dispensed in primary care. Around half of all registered patients in England receive repeat prescriptions and the rate is rising⁸. As prescription volumes increased by 11% between

2010 and 2014⁹, it is safe to assume that the amount and overall cost of medicines waste in primary care will also have increased. Continually reviewing repeat prescribing processes is therefore vital to ensure that working in more automated ways (as a result of the introduction of repeat dispensing and electronic prescribing) does not remove the opportunities for proper scrutiny of prescription requests.

Previous reports have made recommendations to reduce the problem of medicines waste, but the difficulty is that these are very broad and do not take into account local population needs and the variations in working practices that are observed in different areas. This report outlines the root causes of medicines waste in the Bristol CCG area and makes recommendations on ways to reduce this problem locally.

5 METHODOLOGY

Over a period of one year the entire prescription medicine supply pathway in primary care in Bristol was investigated, from the point where patients visit a medical practice (from now on referred to as a GP practice) through to the point where prescribed medication is taken by or administered to a patient. This investigation involved the following stakeholders across Bristol:

- 53 GP practices (GPs, practice managers, prescription clerks, practice nurse prescribers and practice support pharmacists ('practice pharmacists'))
- 117 community pharmacies (pharmacists and pharmacy technicians)
- Six dispensing appliance contractors (DACs)
- Four appliance manufacturers
- 3,774 patients
- Five pharmacy staff employed within two local hospital trusts
- 72 care homes and care homes with nursing (CHwN) (managers, carers and registered nurses)
- A Bristol-based community matron and nurse team
- Four nursing staff employed within two local hospital trusts
- Five specialist nurses (working in primary and secondary care)
- 18 retirement homes, supported housing units and extra care housing units (managers, wardens and residents)
- Two carer support charities
- One patient support organisation
- Five stoma charities
- Avon Wildlife Trust
- One waste management plant
- Avon Local Pharmaceutical Committee (LPC)
- Avon Local Medical Committee (LMC)
- Bristol City Council
- Wessex Water Services Limited
- 32 other CCGs across England

The following methods were used to identify the root causes of medicines waste across the city:

- Planned visits and meetings

- Shadowing/direct observations
- 'Mystery shopper' style observations
- One-to-one interviews
- Group discussions
- Telephone and e-mail conversations
- Photographic evidence
- Feedback received during presentations and teaching sessions
- Practice Quality & Productivity Scheme projects and audits
- Surveys and questionnaires

5.1 Data Collection

A breakdown of the audits, surveys and questionnaires undertaken during this investigation is given in Table 1:

Table 1: Investigations undertaken within this project

Study	Data collection	Method	Date	Sample size
Study 'A' Community pharmacy repeat prescription request audit (Appendix 1)	The appropriateness of repeat prescription requests by community pharmacies.	Audit form completed by GP practice prescription clerks / practice pharmacists.	Jan-Mar 2015	51 GP practices 94 community pharmacies 1,010 patients 3,693 medicine requests
Study 'B' Patient Medicines Ordering Survey (Appendix 2)	How patients order their repeat prescriptions and manage their medicines at home. Self-reported concordance with medicines. Access to medicines related information and support.	Patients completed surveys in GP practices. Public consultation via the Bristol City Council Consultation Hub website.	Jan-Mar 2015	51 GP practices 123 community pharmacies and DACs 1,487 patients
Study 'C' Prescription Service Survey (Appendix 3)	How patients with a stoma order their prescriptions. Service received from GP practice/DAC. Patient views on medicines waste.	Survey completed by patients electronically and by paper. Face to face, e-mail and telephone discussions with patients.	Apr-Aug 2015	276 patients
Study 'D' Medicines Feedback Questionnaire (Appendix 4)	Patients' self-reported concordance with medicines. Reasons for non-concordance.	Questionnaire completed by patients in GP practice waiting room or over the telephone. Analysis of repeat prescription records.	Jan-Sep 2015	43 GP practices 809 patients 793 non-concordant medicines
Study 'E' Patient views (Appendix 5)	Patient views on the prescribing of medicines, self-reported concordance with medicines and their beliefs around medicines.	Discussions with patients either in their home setting, by e-mail or over the telephone.	Nov 2014-Jun 2015	1,202 patients

6 ISSUES OF CONCERN

6.1 Root causes

The root causes of prescription medicines waste across Bristol CCG were found to fit within one of four categories:

1. Lack of awareness about medicines waste
2. Suboptimal communication between stakeholders
3. Systems of work
4. Patient and carer factors

6.2 Lack of awareness about medicines waste

There is a widespread lack of awareness of the problem of prescription medicines waste across all stakeholders involved in the medicines supply and administration process. All stakeholders had difficulty quantifying the scale of the problem in terms of both financial cost and volume, or the wider consequences to patients, local services, the health economy and the environment.

All staff working across the different healthcare settings could provide examples of how other stakeholders contribute towards medicines waste, but had difficulty recognising how their own working processes could be improved. A broad lack of ownership of the problem was observed amongst all healthcare staff, with a common assumption that the burden of responsibility for change sits elsewhere.

Discussions with patients during interviews and group meetings revealed a common misconception that community pharmacies recycle all returned medicines and therefore the financial loss to the NHS is small. Many patients perceive the NHS has large reserves of funding and is capable of absorbing any financial loss caused by wasted medicines. Patients reported the root cause of this belief as reading on the media how the annual NHS budget stretches into hundreds of billions of pounds each year. It was also common to hear patients say that they thought prescription medicines are free to most people because they are inexpensive to procure. There is a broad view that only medicines prescribed for serious conditions such as cancer and the human immunodeficiency virus are expensive. Patients appear to consider the cost of an individual pack of their own medicines but have difficulty comprehending the wider cost of prescription medicines across all patients who receive them in England.

When informed of the scale of medicines waste in Bristol, all stakeholders felt that Bristol CCG should be doing more to reduce this problem. It was noted that no-one at Bristol CCG is permanently employed to specifically reduce prescription medicine waste. The general consensus amongst stakeholders is that there is a strong need for such a role to keep this ongoing problem at a minimal level. Research was undertaken across 32 other CCGs across England to establish whether this role existed in other areas, but none reported employing any form of waste reduction manager. It was noted therefore that a permanent Medicines Waste Manager in Bristol would be an innovative approach to tackling waste and saving money.

6.3 Suboptimal communication between stakeholders

Lack of communication and poor information transfer was found to be a significant contributory factor to prescription medicines waste across Bristol. Differences were identified in what patients would like from their GP and what GPs think patients want. For example, the majority of the 1,202 patients consulted during Study 'E' stated that they felt GPs are too quick to prescribe medicines rather than suggest alternative options. Many patients hold the belief that GPs get paid for every item they prescribe and suggested this as one reason GPs choose to prescribe medicines. The restricted 10-minute consultation time was also suggested by patients as influencing prescription generation. Rather than

being prescribed medicines, most patients stated that they would prefer to be signposted towards local non-pharmacological alternatives, for example, walking and healthy eating groups and talking therapies. Patients described their preferred course of treatment as being a balance of healthy lifestyle advice, self-help options and medicines only if absolutely necessary. Patients said they would prefer GP practices to be more of an information source and a referral route to these services, rather than a supplier of prescriptions. Patients reported being so used to receiving prescriptions that this is now their default expectation when they enter the doctor's surgery. Patients are not asking for alternatives to prescriptions because they are unaware of what else is available. Most of the GPs interviewed said that patients seem to expect prescriptions when they visit them.

Some GP practice staff suggested it would be helpful if information regarding non-pharmacological alternatives was more readily available in local communities to prevent patients going to the GP practice in the first instance. It was suggested that patients should be able to go to their local community pharmacy or community centre for information about non-pharmacological health and wellbeing options. Overall, patients felt that Bristol CCG should be doing a lot more to commission and promote self-care and social prescribing strategies.

The general consensus from patients is that they would like more information about their medicines but do not feel they have enough quality time with their community pharmacist, GP or nurse prescriber to receive this. Nearly all patients in Study 'E' agreed that it is important for them to receive as much information as possible when new medicines are first prescribed, but do not feel enough is currently being offered to them. Patients would like to have a clearer understanding of the risks and benefits of new medicines and most admitted that if the benefits are not clear to them at the start they tend not to take them or take just for a short while before tapering off. Of the 1,487 patients surveyed in Study 'B', 57% stated that a community pharmacy has never offered them a medicines review (Medicines Use Review or 'MUR') or offered to discuss their medicines with them. Although 76% of patients stated that their GP practice offers them regular health checks to discuss their prescribed medicines, patients reported they would rather just have one longer, more informative consultation when a new medicine is started. Several patients reported feeling worried when they are first prescribed a new medicine because they are concerned they will experience every side-effect listed in the patient information leaflet. Study 'D' investigated 809 patients and supported these findings, revealing that not having enough information, having concerns or certain beliefs about medicines, and having side-effects or concerns about side-effects accounted for 32% of the reasons for patient non-concordance with medicines. It was noted that medicines listed in British National Formulary (BNF) chapters 2, 9 and 4 (Cardiovascular System, Nutrition and Blood and Central Nervous System) accounted for over half of the medicines not being taken concordantly by patients in this study. When asked the reason for this non-concordance, many patients stated that having high blood pressure, depression or being calcium deficient does not make them feel acutely unwell, so they do not recognise the importance of taking these medicines regularly.

Nearly all of the patients consulted during Study 'E' who had been in hospital in the last year reported receiving little or no information about their medicines prior to discharge. This lack of information was found to be one reason why patients are not concordant with their medicines after they return home. As hospital trusts do not communicate hospital admissions to community pharmacies, medicines continue to be delivered to patients' homes which are often inappropriate because the hospital has changed the regimen. This leads to patient and carer confusion, the inappropriate administration of medicines and

stockpiling. It was acknowledged though that local hospital trusts have started participating in an IT-based pilot that aims to transfer patient information (including discharge medication lists) over to community pharmacies. In the future, receiving this information would enable community pharmacies to undertake post-discharge medication reviews with patients to ensure they are clear about how to take their medicines correctly.

GPs reported receiving little or no feedback from patients and community pharmacies about patient concordance with medicines, or any reasons for this lack of concordance. However both community and practice pharmacists stated that feedback is provided to GP practices via the MUR and the New Medicines Service (NMS) worksheets. These worksheets are completed and returned to GP practices when there is an issue the prescriber should follow up on which could optimise the medicines regimen and enhance patient concordance with them. However, GP practice receptionists reported that in practice, these forms are rarely read and actioned by the practice, and are often just scanned onto the computer system without taking any action. It was noted that whilst many health professionals in Bristol know valuable information about patients' medication non-concordance and stockpiling issues, there is seldom any formal mechanism in place for reporting this information back to GP practices, and usually no dedicated person to receive and process this information at the practice. This means that opportunities to reduce medication non-concordance and discontinue unused medication are being missed; resulting in medicines waste.

6.4 Systems of work

6.4.1 Ordering prescriptions

Prescriptions can be requested by patients, community pharmacies, carers, family members and DACs. During some GP practice visits, prescription clerks stated they were often confused as to whose job it is to order prescriptions for patients because prescriptions are sometimes ordered by more than one person for the same patient. This leads to increased and often unnecessary prescription workload in GP practices, with excess medicines and appliances being prescribed.

Study 'B' was developed to identify how patients' medicines are ordered and by whom. The results highlighted that many patients are confused by the different paper and electronic methods available to request their prescriptions. Some patients commented that they do not understand how to correctly complete a repeat prescription order form. At least 15% of patients reported having excess amounts of at least one of their prescription medicines at home, and 9% reported receiving prescriptions for medicines they have not even ordered.

Community matrons and district nurses reported observing a sharp increase in medication stock-piling in patients' homes over recent years, which they largely attributed to excessive prescribing quantities, and DACs and community pharmacies ordering prescriptions on behalf of patients.

Many patients reported that when community pharmacies order their prescriptions, they automatically receive all of their medicines regardless of whether or not they have asked for or need them. Examples commonly cited by patients included test strips, glyceryl trinitrate spray, nutritional feeds and 'when required' medicines such as creams, inhalers and analgesics. A physical inspection of the medicines waste bins at a waste management

plant in Bristol identified that the most common types of prescription medicines returned for disposal are:

- Unopened large containers of topical cream
- Full or nearly full packs of analgesics (often packs of '100')
- Unused or partially used inhalers
- Laxative sachets and tablets
- Antihypertensive medicines
- Calcium and vitamin D supplements
- Anxiolytics and antidepressants



Above: Picture 1. Inspecting the contents of a medicines waste bin at a local waste management plant.

Several patients reported feeling upset that their community pharmacist does not ask them which medicines they would like for the next cycle, as they then do not have an opportunity to state that they already have enough at home. Patients reported feeling 'powerless' and that they had 'lost control of their medicines' after they signed up to a pharmacy repeat prescription, collection and delivery service. Two patients reported signing up to this service because the community pharmacy told them it was what the CCG wants patients to do. Several patients reported that they miss their annual medication review at the GP practice because the community pharmacy does not return their copy of their repeat prescription form to them, which highlights the date their next review is due.

Almost all of the GP practices contacted stated that community pharmacies ordering prescriptions on behalf of patients increased their workload. The biggest problem cited was 'lost' prescriptions, where prescriptions went 'missing' after being ordered and collected by the pharmacy. This requires practices to waste time either reproducing prescriptions or searching through computer records to prove that the original prescription form did actually leave the practice premises in the first place.

During this project two GP practices contacted Bristol CCG to complain about prescriptions for CHwN residents being requested too early in the monthly cycle, with practices being asked to supply prescriptions only 10 days after the last batch was issued. Concern was expressed that medicines stopped after the 10th day of the cycle are still dispensed by pharmacies, and it was noted that this increases medicines waste and the risk of patients receiving inappropriate medicines. Further investigation into the root causes of early prescription ordering in CHwN highlighted that some homes have poor systems in place for managing repeat prescriptions and would benefit from more support and training from their community pharmacy.

It was observed that when dispensing for care homes and CHwN, large chain pharmacies require prescriptions a lot earlier in the month compared to small chain and independent pharmacies. One large pharmacy chain reported needing prescriptions at least three weeks in advance to dispense the medication. When asked why they need so much notice, it was reported that this was a 'standard timeframe' that all pharmacies work to when preparing medicines for homes. Further investigation revealed that after home staff request repeat prescriptions, the FP10s have to be returned to the home and checked through (taking up to five days) before forwarding on to the pharmacy for dispensing. It was noted though that this would still provide community pharmacies with at least two weeks' notice to dispense the prescriptions. This issue was raised with the regional management team of the pharmacy chain and they were asked whether they could review their working processes to reduce the time needed to dispense prescriptions for homes. Little enthusiasm for this was identified though and there appeared to be resignation that existing dispensing services could not be improved. It was noted that this mindset prevented positive changes which could release more GP practice time, reduce the risk of inappropriate medicines administration and reduce medicines waste. Community pharmacies in Bristol could be doing a lot more to streamline their dispensing processes and support home staff with their prescription management.

GP practices reported that when both patients and community pharmacists order the same prescription, it is unclear who the prescription form should be given to and whether or not the patient has even consented for the pharmacy to request and collect their prescription on their behalf. Practices reported regularly receiving requests from community pharmacies for all of the 'when required' items patients are prescribed. Practices do not have the capacity to contact each patient by telephone to confirm which medicines they actually need.

An audit was developed (Study 'A') to investigate the appropriateness of repeat prescription requests sent to GP practices from community pharmacies. This revealed that 16% of the 3,693 medicines requested by pharmacies were inappropriately requested. The main reasons for this were prescriptions being requested too soon or medicines being over ordered (66%), prescriptions being requested for medicines that had previously been stopped by the prescriber (10%) and prescriptions being requested for items that were only intended for acute use (6%). It was interesting to note that there is a wide variation in the rate of inappropriate prescription requesting between pharmacy chains, with one chain

at 24% and another at 8%. The results of Study 'B' showed that when community pharmacies request prescriptions on behalf of patients, the number of patients receiving unwanted medicines increases (14% versus 8%).

Whilst visiting community pharmacies to observe their prescription ordering processes, some pharmacy staff were observed ordering prescriptions for patients without first checking with patients which items they actually need. Some community pharmacists admitted to ordering prescriptions for all of the medicines because they are unsure how much 'when required' medication patients actually use each cycle, hence making a best guess judgement as to what they think the patient might need. Other reasons cited for ordering all patients' prescription medicines included concerns that patients might run out of medication, the pressure of having to increase dispensing figures to meet company targets and a lack of time.

When confirming dispensing arrangements, it was often noted that pharmacy staff did not use language that invited patients to declare if they already have enough of their medicines at home. Staff were overheard saying to patients "I'm assuming you need everything this time so I'll dispense everything", and "I'll get all this delivered to you then", as opposed to "is there anything on this list that you *don't* actually need this time"? In other pharmacies, whilst some staff *were* observed asking patients what medicines they actually need, it was noted that this was usually done two months in advance of the next prescription being dispensed. This approach makes it difficult for patients to accurately predict what they might need in the future; leading to patients requesting everything to be on the safe side. Community pharmacists are not doing enough to scrutinise which medicines patients actually need and are not asking them at the right time. This means that valuable opportunities to reduce inappropriate stockpiling and medicines waste are being missed.

It was learnt that some CCGs have implemented 'not dispensed schemes' which remunerate community pharmacies for identifying patients that do not require particular medicines at the point of each dispensation. Whilst this approach might appear to identify cost savings in the short term, it was noted that this strategy would not address the fundamental root causes of inappropriate or unnecessary prescribing, meaning that unnecessary prescription generation would still continue and subsequently maximise prescriber workload. Furthermore, this approach would not address the wider, ongoing problems associated with patient non-concordance with medicines or the lack of regular medication review for some patients. There are also ethical issues associated with having to use NHS funds to remunerate community pharmacies (who are private businesses) to check whether or not patients need their medicines. It could be argued that community pharmacies – who are responsible for the supply of prescription medicines - should be making these checks anyway as part of their core role.

It was recognised that a more valuable strategy might be to remunerate community pharmacies to take on extended roles in supporting prescribers with their 6-monthly and annual medication reviews. This would enable community pharmacists to make optimal use of their clinical skills and knowledge to ensure that only appropriate and necessary medicines were routinely prescribed in the first place; leading to a reduction in unnecessary workload for prescribers and promoting the medicines optimisation agenda. This approach would enhance communication links between GP practices and community pharmacies (which has already been identified as an area of concern in this report) and could be achieved by providing pharmacies with a level of access to the EMIS prescribing system. Community pharmacies could also be remunerated to provide an advanced level

of counselling, information and support to patients when they are first prescribed new regular medicines; increasing the likelihood of sustained patient concordance with their medicines and the associated long term health gains.

6.4.2 Issuing prescriptions

Across Bristol GP practices there is a wide variation in the skill, knowledge and experience of prescription clerks, as well as variation in the number of prescription clerks actually working in each GP practice (ranging from none to four). Processing prescription requests requires a high degree of judgement and prescription clerks assume this responsibility without any formal qualifications or being registered with any professional body. They have an important role in ensuring that prescriptions are only issued when appropriate and therefore are ideally placed to reduce unnecessary prescription generation and medicines waste.

It is important that prescription clerks can work uninterrupted in a quiet area where they are not expected to undertake any other task at the same time. It was observed that although some are able to do this most are not, because prescription work often takes place at the reception desk where it is busy with frequent interruptions, and clerks are expected to divert between activities such as greeting patients and answering the telephone. This prevents them from undertaking a thorough analysis of the appropriateness of prescription requests. Two prescription clerks were observed scrutinising patients' records for the date of last issue, any outstanding test results and the medication review dates before issuing more prescriptions. Due to a lack of space, dedicated time and training, most prescription clerks were observed just processing prescription requests with little scrutiny. Three prescription clerks stated that it is easier just to select, click and issue every medicine on a patient's prescription list than to only issue the items requested. It was noted that whilst this approach may be quicker for practices in the short term, it actually increases practice workload in the long term as prescription requests then continue coming into the GP practice on a regular basis. These findings support previously published research which identified that prescriptions are often generated in an inappropriate environment, with prescription clerks often having to make judgements on issues that are above their level of knowledge⁷.

There is a broad misconception amongst prescription clerks that if a prescription has been requested by a community pharmacy then the item must have been screened by a pharmacist and therefore be appropriate to issue. Some clerks reported that they prefer receiving prescription requests from community pharmacies for this reason. One clerk stated that due to a lack of time, the usual approach in her practice is to just continue issuing prescriptions for medicines until the community pharmacist contacts them to say they have enough.

Prescription clerks in Bristol are isolated and there is very little training and support available to them. One local organisation currently offers one-day courses in medical terminology and generic medicine names, but nothing covering appropriate and cost-effective prescription issuing. There are currently no arrangements in place for prescription clerks across Bristol to network with each other to share ideas and learning to improve their prescription management.

Case study 1

The Medicines Management team at North Somerset CCG fund the training and employment of Medicines Management Administrators (MMAs) in their GP practices.

Through the completion of specially developed projects and audits, the MMAs assist the team in achieving evidence-based, cost-effective prescribing; optimising patients' health outcomes and releasing resources to be used elsewhere in the health economy. Funding a MMA in each GP practice increases practice engagement with medicines management projects and enhances communication links between the North Somerset CCG and its member practices. For more information, contact Angela Stinchcombe at North Somerset CCG: Angela.stinchcombe@northsomersetccg.nhs.uk.

All the community pharmacists consulted during this investigation stated they had experienced difficulties obtaining prescriptions for the correct quantity of medication. Pharmacists reported receiving 28-day prescriptions with one item regularly being issued as a 56-day supply. Despite asking the practice to amend this quantity, pharmacists reported this is often not actioned and prescriptions continue to arrive for inappropriate quantities of medication. Pharmacists also reported ongoing difficulties in obtaining prescriptions for less than 28 days' supply when needed to align dispensing cycles for patients in care homes and CHwN. This results in excess medication being sent to homes which are then disposed of unused at the end of the cycle (although staff should carry these unused medicines forward to the next cycle this is seldom done in practice).

In general community pharmacists consider that the quantities prescribed on each prescription are too high, highlighting 84-day and 'when required' prescribing as specific examples. One pharmacist demonstrated a full worktop of uncollected medicines (some being expensive liquid 'specials') where higher prescription quantities are resulting in stock shortages and remaining balances having to be owed to patients. The pharmacist explained how it was commonplace for patients to forget to return to the pharmacy for the balance, resulting in medicines going out of date and being disposed of unused. Several pharmacies reported having to increase their stock levels to meet increasing prescribing quantities, and how it can be difficult to maintain appropriate stock levels of medicines.

Three community pharmacists highlighted the potential for overprescribing if 'when required' medicines are authorised for repeat dispensing. It was demonstrated how this can create a false perception that patients require these medicines regularly, leading to further prescribing and stockpiling in patients' homes. The placement of 'when required' items on repeat dispensing systems varies widely across Bristol GP practices. It was noted that guidance recently published by NHS England¹⁰ states that:

"In order to improve the management of electronic repeat dispensing, it is recommended that 'when required' medication is prescribed on a separate electronic repeat dispensing prescription from regular electronic repeat dispensing medication. This is the same as the advice for paper dispensing".

Other guidance¹¹ states that:

"Repeat dispensing is a model for people on stable, long-term medicines and will not be suitable for all patients, especially those with acute, newly diagnosed or unstable conditions".

An analysis of repeat dispensing guidance published by other CCGs revealed that many have developed patient inclusion and exclusion criteria for the scheme. It was noted that patients currently prescribed 'when required' medicines are generally excluded from repeat dispensing schemes in other CCGs.

Most of the patients consulted who have been prescribed analgesics thought that GPs prescribe too many of these medicines. Patients reported receiving 100 analgesic tablets at a time and described how this nearly always exceeds their requirements. Several patients who receive free prescriptions admitted giving their excess medicines to family members or friends, with some stating that family members now rely on them to supply these medicines to treat their own ongoing ailments. There was a widespread view amongst patients that there is not enough 'trial' prescribing in primary care. Patients feel that GPs should initially prescribe smaller quantities of medicine to allow them to judge the therapeutic benefit before they decide whether to request further supplies.

There is a broad view across Bristol CHwN that GPs over prescribe anticipatory medicines for patients at end of life, giving 10 days' worth of medication when three days' worth is nearly always enough for them. The current Bristol, North Somerset and South Gloucestershire (BNSSG) anticipatory prescribing guidelines¹² state:

"All patients should be prescribed an amount tailored to their individual needs. For most patients at least 10 doses of each medication are recommended. For more complex patients, e.g. those requiring 'when required' medications, it is important to consider their 24 hour requirements and estimated 'when required' use. Prescribe at least 3 days' supply of 'just in case' medication for the syringe pump and 'when required' use. Consider authorising an appropriate dose range for the syringe pump medication to allow for one or two dose increases by community nurses".

It was acknowledged that anticipatory prescribing can be very difficult for GPs because determining how much medication will control an individual patient's symptoms and how long that patient will actually live is, at best, an educated guess. It was noted though that whilst prescribing 10 doses of 'when required' medication might equate to only three days' supply, prescribing 10 doses of syringe driver medication equates to 10 days' supply. GPs reported prescribing anticipatory medication in multiples of five or 10 ampoules at a time due to the pack sizes of these medicines and thus to make dispensing processes easier for the community pharmacy.

Prescribing decision support software was quoted by practices as being a contributor of medicines waste. This is software procured by the CCG for its member practices, which makes prescribing recommendations to GPs based on national and local guidelines and formularies. The aim of this is to deliver better patient care and promote cost-effective prescribing. Practices reported that recommendations made by the software often resulted in medicines being stopped and patients being switched to other medicines, resulting in previously prescribed medicines being unused and wasted. It was concerning to hear some patients in Study 'E' believe that when their medicines are switched to a generic preparation or one with a lower acquisition cost, the new medicine 'must contain a lower amount of drug', or is somehow 'lower in efficacy', or 'carries a higher risk of side-effects'. It was noted that prescribers could make improvements in the way medication changes are communicated to patients to dispel these myths and promote patient concordance with medicines.

Two GPs reported that the prescribing of adrenaline anaphylaxis injection is wasteful because in the vast majority of cases they are not used and expire quickly due to their limited 18-month shelf-life. It was noted that an alternative brand of adrenaline anaphylaxis injection is available with a 30-month expiry, which would reduce the amount of waste generated and be more cost-effective.

Some practice pharmacists reported that discharge summaries are sometimes scanned onto the computer system without being shown to a GP first. This means that GP practice records are not updated fast enough when medicines are stopped or changed by the hospital. This is resulting in prescriptions being inappropriately issued and dispensed.

A number of factors were found to inappropriately influence the decision to prescribe medicines. Several GPs reported that it is less time-consuming just to issue a prescription, because there is no incentive for them not to prescribe medicines when doing so saves them time and meets perceived patient expectation. Some GPs reported that prescribing higher quantities of medication delays the patient returning to the practice for a further supply; thus reducing their overall workload. It was also common to hear that the quantity of medication prescribed is influenced by whether or not the patient pays for their prescription (patients who pay tend to be prescribed higher quantities). One GP reported prescribing whole packs of medicines at a time because he thought it would save the pharmacy staff time in packing down the medication. Another thought that optimal prescribing is about prescribing more medicines rather than less, reasoning that the National Institute for Health and Clinical Excellence (NICE) guidance promotes prescribing. It was interesting to note that one community matron stated there is too much prescribing to adhere to NICE guidance instead of prescribing to what the patient will actually take in reality.

The problem of prescribing errors was highlighted by several pharmacists, particularly antibiotics for patients who already had a documented allergy status to that drug. Several prescribing or dispensing errors were shown to Medicines Management staff during visits to sheltered accommodation, extra care housing and care homes. It was interesting to note in Study 'D' that 3% of patients reported noticing prescribing or dispensing errors as being the reason they were non-concordant with their medicines.

Other feedback received highlighted the issue of practices prescribing two inhalers at a time for patients with newly diagnosed respiratory conditions, when it would be better to supply just one inhaler at first to check the patient can use and tolerate it.

6.4.3 Appliance prescribing and dispensing

Stoma and continence prescribing is a highly specialist area that GPs and practice nurses have little training in. The process for prescribing and dispensing stoma and continence appliances is complex and results in significant waste through the unnecessary and inappropriate supply of products; leading to stockpiling of unused appliances in patients' homes. The initial supply of stoma and continence products starts in secondary care. Appliance manufacturers supply Bristol hospitals with free stoma bags and catheters to use on patients during their hospital stay and to take home to use after discharge. This results in appliance manufacturers having a strong influence over the brands prescribed in primary care.

It is common for appliance manufacturers to set up their own DAC service and for hospitals to have signed agreements with them to provide patients with information about their services. The vast majority of patients choose to sign up to this service due to concept endorsement by the specialist nurse, the convenience of home delivery and the provision of free samples by the DAC. As a result, future prescriptions for appliances are dispensed by the DAC rather than the community pharmacy. Some of the DACs that offer this service manufacture products with the highest acquisition cost to the NHS. Whilst this increased cost does not impact upon secondary care (because they receive many of these

products free of charge) it places a huge financial burden on CCGs as patients continue to be prescribed these products in primary care. The results of Study 'C' revealed that 69% of the 276 stoma patients surveyed have delegated the responsibility for ordering their stoma appliance prescriptions over to these DACs, which has further strengthened their influence over prescribing decisions.

Both primary and secondary care have different formularies for continence prescribing across Bristol. It was noted that working in this way removes the opportunity to make cost savings through joint procurement. There is no formulary for stoma appliance prescribing in either primary or secondary care in Bristol. The specialist stoma nurses reported feeling reluctant to follow a prescribing formulary as this could limit patient choice and would be difficult to follow in practice due to the individual needs of each patient. It was noted though that there is potential to develop an accessory formulary highlighting the preferred choice of products such as creams, wipes and sprays.

DACs cannot legally supply appliances to patients in advance of a prescription, but this was observed happening on several occasions across Bristol GP practices. Since the products had already been issued to patients, GP practices reported feeling pressured into writing prescriptions for products they do not understand the use of and cannot assess as being appropriate or not for the patient. In Study 'C' 88% of stoma patients surveyed stated that their specialist stoma nurse knows more about their products than their GP does. Only 31% of patients replied positively when asked if they thought their GP understands their needs as a stoma patient.

All GP practices reported an increase in their prescribing workload as a result of DACs requesting prescriptions. A common complaint from practices was receiving multiple prescription requests for the same patients, which was suggested as being the result of poor record-keeping on the part of the DAC.

Patients are given free samples and appliances to try by DACs, despite the fact that their suitability for use has not yet been reviewed by a specialist nurse. Patients often agree to receive further supplies of these products because they are not as informed as they might be. GP practices are then asked to supply prescriptions for these items and add them to the patient's repeat prescription list, despite them sometimes being unnecessary or inappropriate for the patient.

75% of stoma patients in Study 'C' reported having received excess products that they do not want and either throw them away or donate them to charity. This was confirmed by community matrons who reported seeing cupboards full of unused products when they visit patients' homes. Several CHwN reported that they now refuse to use DACs to obtain appliances due to the problem of excess products being delivered and limited storage space in the home.

The Ileostomy and Internal Pouch Support Group in Bristol reported that their organisation collects unwanted/excess stoma supplies from patients and arranges for them to be donated to charity. Whilst this appears to reduce the physical amount of waste that ends up in landfill sites, it was noted that the prescribing costs will still have been met by the NHS.

The current process for the supply of stoma and continence products in Bristol is outlined in Appendix 6.

Case study 2

Rotherham CCG has previously transferred the responsibility for continence and stoma appliance prescribing over to the specialist nurses. An entirely nurse-led service now supplies these appliances for patients in primary care. Appliances are still dispensed by DACs and delivered directly to patients, but because the nurses scrutinise every prescription request before approving it only items that are appropriate for patients are supplied. Since Rotherham CCG transferred appliance prescribing over to the specialist nurses, their continence prescribing costs have decreased by 8.99%, compared to a national increase of 21.56%. Stoma prescribing costs have decreased by 22.45%, compared to a national increase of 6.48%. These savings have been achieved by the improved management of prescriptions and have been reinvested back into service development. There is no restriction on product choice; patients still get the product that is most suitable for them. For more information about this service go to: <http://www.rotherhamccg.nhs.uk/continencestoma.htm>

6.4.4 Care homes (with and without nursing)

The management of medicines in care homes across Bristol was found to vary greatly. The root causes of medicines waste were found to relate to either a lack of clinical knowledge or suboptimal working processes. Some staff were found to have better access to medicines-related training than others, and this seemed to be largely dependent upon which community pharmacy was the usual medicines supplier and what training was available for that companies' staff.

Both carers and registered nurses in care homes and CHwN stated that they are unsure of the clinical indication for some medicines (especially 'when required' medicines) making it difficult for them to know when they should be administered to or taken by service users. As a result, staff admitted to ordering prescriptions for all of the medicines service users are prescribed, despite the fact that not all are regularly being taken. CHwN nurses stated that they rarely refer to the GP to discuss the continued appropriateness of medicines, due to an assumption that if a GP prescribes a medicine it must be needed. Many nurses lack the confidence to challenge GP prescribing. There is a broad view in CHwN that if you reduce the number of prescribed medicines and supplements then you increase the cost of caring for service users. Reducing polypharmacy was not found to be an organisational priority in Bristol care homes or CHwN.

All the CHwN nurses questioned stated they are uncertain which medicines can be crushed or opened for service users with swallowing difficulties. It was common to hear nurses say that they ask the GP for a prescription for a liquid preparation rather than ask the pharmacist if the medicine can be crushed or if an alternative can be prescribed.

GP practices reported that sometimes more than one member of staff at a CHwN requests the same prescription from the practice. This was found to occur because of a lack of written communication in the home, where staff are not documenting what they have ordered and when.

There is a broad perception in Bristol care homes and CHwN that any medicines left over at the end of the monthly cycle should be disposed of and not be carried over. This is partly due to a lack of knowledge on the expiry date of medicines once opened, but also because of a shortage of storage space in the home. One carer admitted to disposing of a service user's unused laxative sachets immediately after delivery due to lack of storage space. Other issues relating to the storage of medicines in care homes and CHwN

included stocktakes not being undertaken before further supplies are requested, poor stock rotation, refrigerator temperatures not being regularly monitored and the date of first opening medicine containers not being recorded.

Two CHwN nurses reported preparing the service users' medication before arriving at their bed-side, which can cause difficulties because the service user was then found to be asleep. This resulted in medication being discarded because it had already been removed from its original container and it was not possible to return the medication to the pack. Some GP practices reported that their local CHwN sometimes requests prescriptions to cover medication that has been dropped on the floor. Whilst these issues contribute to medicines waste, it was also noted that they could result in service users not receiving their medication on time.

Several care homes and CHwN reported receiving the wrong medication due to prescribing or dispensing errors, which caused medicines waste and delayed the administration of medicines to service users. CHwN nurses reported delays in receiving anticipatory medicines from community pharmacies, stating that service users have sometimes passed away before the medicines arrive and therefore they are not used. Further investigation of this issue highlighted that CHwN are often unaware which pharmacies in Bristol have been contracted to keep a permanent stock of anticipatory medicines, resulting in staff spending a considerable amount of time telephoning different pharmacies to enquire about stock availability.

Case study 3

Medicines waste is almost non-existent in Frenchay Park Nursing Home because of the excellent working relationship between the home, the Old School Surgery and the Old School Pharmacy. A pharmacist and a GP employed by the practice visit the home together and undertake a 'ward round' once a week. During each visit the practice pharmacist reviews every patient's medicines administration record (MAR) to check their concordance with therapy and any administration issues. All medicines are prescribed on repeat dispensing and the GP controls the quantity of medicines the home is prescribed. The home only carries one week worth of prescription medicines at any given time and all 'when required' medicines are dispensed separately from the standard cycle and are prescribed only when needed. After each 'ward round' the GP visits the pharmacy and communicates the outcomes of the visit, providing them with a 'change form' listing the medication changes and any information regarding hospital admissions and discharges. The home is provided with a copy of this form for their notes and for the purpose of having an audit trail. The pharmacy is proactive in its approach to medicines management in the home. The pharmacy technician visits once a month to discuss and resolve any medicine-related issues, such as stock or storage problems, medication incidents or medicines waste. The pharmacist has been given access to the practices' computer system ('EMIS') and uses this to communicate any medication or concordance issues back to the GP and prescribing clerk. After each Care Quality Commission (CQC) inspection in the home, the pharmacist contacts CQC to discuss any issues found and then supports the home in addressing any required improvements. Working together in this way means that medicines waste in the home is kept to an absolute minimum.

6.4.5 Multi-compartment compliance aids (MCAs)

There is a general view across Bristol GP practices that MCAs are one of the biggest contributors to medicines waste and end up being disposed of unused. The practice of batch-dispensing at least four weeks' worth of MCAs in advance was suggested as being

the main cause of waste, with the perception that when medicines are changed halfway through a cycle the whole MCA container is discarded and everything is re-dispensed again. In part this is true, since there is no obligation under the NHS Terms of Service or the Equality Act 2010 for a pharmacy to amend the existing MCA halfway through and re-use the medicines that have not changed. Pharmacies can expect alterations to treatment to result in the production of a fresh prescription for all of a patient's medicines. However in practice, pharmacies reported removing discontinued medication from the MCA or just adding new medication to it; thus not wasting all of the other medication already contained in the device. This highlights how only releasing 7-day prescriptions at a time for MCA patients on the repeat dispensing system could prevent the risk of medicines being wasted.

During a visit to one community pharmacy, a pharmacy technician was observed dispensing four weeks' worth of MCAs even though only a 7-day prescription had been issued. This decision was based on an assumption that the medicines are unlikely to change over four weeks. It was noted that if a community pharmacy elects to dispense MCAs in advance of a prescription and the medicines subsequently change, the pharmacy either returns the stock to their shelves or disposes of it. However in the latter situation the financial loss is borne by the community pharmacy. Prescription clerks suggested setting weekly release dates for electronically prescribed MCA prescriptions as a way of limiting the number of MCAs that can be dispensed in advance. Although when suggested to community pharmacists, this idea was strongly rejected on the basis that dispensing in batches reduces the overall time it takes to dispense MCAs.

In some ways, the dispensing of medication in MCAs was found to be less wasteful than dispensing medication in ordinary medicines containers. When medicines are dispensed in original packs of 56 or 100 and only a few are taken by a patient, the remainder of the pack cannot be reused and this cost is borne by Bristol CCG.

Further analysis of the 1,010 patients in Study 'A' revealed that 21% currently have their medicines dispensed in a MCA. Both hospital trusts in Bristol have previously reported a similar MCA dispensing rate for their discharge prescriptions. The growing number of patients using or being initiated with a MCA is increasing administrative workload for GP practices, community pharmacies, care homes and hospital trusts.

Case study 4

In the Norfolk CCG area, a 'Medicines Support Service' supports patients who have problems managing their medication. The aim of the service is to facilitate the care of people in their own home by providing a professional medicines management assessment and support service. Referral into the service can come from any healthcare professional, social worker, carer, relative or patient, or through a pharmacy or GP practice. Once registered with the service, an assessment is carried out in the patient's home by a pharmacist or pharmacy technician who considers the clinical and compliance issues relating to the patient and their medicines. Interventions can include the use of medicines reminder charts, assisted administration by a trained care worker, and a recommendation for medicines to be dispensed into a MCA. Carers have been trained to administer medicines from original packs using a MAR chart. This has removed the problem of carer agencies insisting that medicines have to be dispensed into a MCA, which has reduced delays in discharge from hospital. A copy of their medication policy can be found at <http://www.norfolk.gov.uk/view/NCC085501>.

6.4.6 Hospital trusts

Whilst many stakeholders across primary care consider hospitals to be a large contributor of medicines waste, this was not found to be the case. GP practices, community matrons and patients expressed the view that hospitals discharge patients with 'too many medicines'. After investigation though, hospital pharmacies were not found to be dispensing more than the quantity agreed in the Service Level Agreement between the CCG and the Trusts.

It was acknowledged by all stakeholders that hospitals discontinuing medicines resulted in waste. Whilst this is true, it was noted that the amount of waste could be reduced if patients maintained lower stock levels of medicines in their cupboards at any given time and thus had less to take into hospital. Prescribers in primary care could support this approach by prescribing lower quantities of medicines each time, for example, only 56 days' worth instead of 84 days' worth. The decision to discontinue a medicine in hospital is based upon a review of the clinical needs of a patient, and so any medicines waste that occurs through the discontinuation of medicines in hospital was found to be largely unavoidable.

Many patients complained that their own medicines had become lost during a previous hospital stay, with some patients reporting that as much as three months' worth of medicines had gone missing. This area was found to generate a lot of anger amongst patients who consider it wasteful for hospitals to lose medicines only to reissue another supply again at discharge. Patients stated that losing their medicines reduces their concordance with treatment because they are unfamiliar with the different brands and packaging the hospitals use. The general consensus amongst patients and GP practices is that hospitals are not doing enough to look after patients' own medicines and prevent them getting lost.

6.4.7 Emergency cupboard medicines

Practice nurses reported that emergency cupboard medicines often go out of date because they are packed in high quantities and thus end up being disposed of. Nurses would prefer enoxaparin to be packed down into smaller quantities, but unfortunately this is not possible due to the legislation involving specialist licensing and manufacturing requirements. It was noted that GP practices could reduce their emergency cupboard waste by only stocking anaphylaxis medication. All other medication (including enoxaparin) could be requested as needed by issuing a prescription and collecting it from the nearest pharmacy in Bristol.

6.4.8 Recycling medicines

All stakeholders raised the issue of medicines recycling and suggested this as being a practical and morally acceptable solution for reducing the volume of waste sent to waste management plants. There is a common misconception amongst stakeholders that recycling medicines is a straightforward process but this was not found to be the case. The World Health Organisation (WHO) states that¹³:

"No medicines should be donated that have been issued to patients and then returned to a pharmacy or elsewhere, or that have been given to health professionals as free samples. All donated medicines should be obtained from a quality-ensured source and should comply with quality standards in both donor and recipient countries".

The Medicines and Healthcare products Regulatory Agency (MHRA) advise that neither pharmacies nor GP practices can legally redistribute unused medicines for re-use, as this is classed as ‘wholesale distribution of a medicine’ as defined in regulation 18(4) and (5) of the Human Medicines Regulations 2012. If a GP or pharmacist supplies a patient-returned medicine to another legal entity knowing it could be for further supply they will need a wholesale dealer’s licence. The holding of this licence has conditions attached to it which include that the holder only obtains supplies of medicinal products from other licensed wholesale dealers or manufacturers either in the UK or in another European Economic Area (EEA). The license holder must verify that the wholesale dealer who supplies the product complies with the principles and guidelines of good distribution practice or that the manufacturer or importer who supplies the product holds a manufacturing authorisation. These conditions prohibit the holder obtaining any medicine from an unlicensed source in the EEA, which includes accepting patient-returned medicines for further supply/use¹⁴.

Furthermore, the General Pharmaceutical Council (GPhC) states that¹⁵:

“When medicines are returned from patients, pharmacists must not re-supply them to other patients”.

For these reasons the best approach for all stakeholders involved would be to focus efforts on preventing medicines waste occurring in the first place.

6.5 Patient and carer factors

When investigating the reasons why patients order all of their prescription medicines with every prescription request (Study ‘B’), 89% of patients reported that it is because they ‘need every item’ each time. It was interesting to note though that 22% of the patients surveyed then responded later in the survey that they attributed their medicines ordering to a reason other than actual ‘need’.

Many patients living in sheltered accommodation admitted that there is no thought process behind their prescription requests. It was common to hear patients say they over order and stockpile their medicines out of fear of running out. The problem of medication stockpiling in patients’ homes was found to be more significant than anticipated, with patients, community matrons and district nurses reporting that the hoarding of discontinued medicines causes patients and carers a lot of confusion and results in medicines being taken inappropriately.



Above left: Picture 2. A photograph submitted by a Bristol community pharmacist showing the unused medicines returned by one patient. The medicines being wasted in this picture have cost the NHS £171.58 at current Drug Tariff pricing.

Above right: Picture 3. A photograph taken inside a local waste management plant, showing one patient's unused medicines which had been received for destruction.

Elderly patients living in their own homes lack support to help them with their medicines. Those who have recently been discharged from hospital with several medicines appear to be the most vulnerable. NHS England does not commission community pharmacies to undertake any medication reviews in patients' homes to see how they manage their medicines. This means that valuable opportunities to optimise medicines concordance and prevent medication stockpiling and waste are being missed. It was noted that commissioning community pharmacists to conduct MURs in patients' homes would not be a stand-alone solution though because what is really needed is a proactive patient assessment service that starts immediately prior to hospital discharge and continues to offer ongoing support to identified patients in primary care as needed.

Bristol CCG currently commissions services from a community provider to support patients in their own homes after hospital discharge. One service accepts patient referrals within seven days of discharge and the other offers support to patients in the first six weeks after discharge. It was noted that these services offer only very limited medicines support because the primary focus is on facilitating hospital discharge and preventing re-admission. During this investigation a desperate need for proactive and ongoing medicines support for domiciliary patients was identified, which suggests that further discussion is needed within the CCG on how this could be achieved.

Case study 5

Lewisham CCG jointly commissions the 'Lewisham Integrated Medicines Optimisation Service' (LIMOS) with the local authority. This is run by a team of specialist pharmacists and pharmacy technicians who assess and support patients with long term conditions in managing their own medicines (including after discharge from hospital). The team provides advice and support to carers who administer or prompt medicines to patients in their own homes. This addresses any medicines concordance issues and reduces medicines waste, enabling patients to stay in their own homes as long as possible. In nine months, the service saved £58,362 through prevented hospital attendances and admissions, £18,960 through the discontinuation of inappropriate/unnecessary medicines, and £280,046 through prevented social care visits where medicines administration would previously have been required. For more information, click [here](#).

The input of domiciliary carers in medicines ordering and handling processes was found to contribute to prescription medicine waste. Carers often lack knowledge on the clinical indication of each prescribed medicine, resulting in patients being prompted to take all of the medicines they are prescribed regardless of whether or not there is a clinical need at that time.

It was highlighted that when cutting blister strips, community pharmacies sometimes cut the expiry date off the strip. Three patients reported throwing their medicines away as a result of this practice because they are unsure whether the medicine is still safe to take.

6.6 Waste disposal

NHS England pays in the region of £450,000 per year to have wasted medicines collected and destroyed from community pharmacies in the local and wider Bristol area. During the month of November 2015, the NHS paid the following for waste collection and disposal from these community pharmacies:

Item	Cost each	Cost total
238 collection visits made	£15.79	£3,758.02
867 standard medicines waste bins collected	£37.75	£32,729.25
29 sharps bins collected	£12.93	£374.97
6 cytotoxic and cytostatic waste bins collected	£9.91	£59.46
5 hazardous waste administration charges	£6.25	£31.25
5 hazardous waste levies	£7.50	£37.50
1 replacement yellow bags	£3.44	£3.44
		Total NHS cost: £36,993.89
Total weight of medicines waste collected: 81 tonnes		

Extrapolated across one year this would equate to:

Table 3: The extrapolated annual cost of community pharmacy medicines waste disposal in the local and wider Bristol area

Item	Cost total
2,856 collection visits made	£45,096.24
10,404 standard medicines waste bins collected	£392,751.00
348 sharps bins collected	£4,499.64
72 cytotoxic and cytostatic waste bins collected	£713.52
60 hazardous waste administration charges	£375.00
60 hazardous waste levies	£450.00
12 replacement yellow bags	£41.28
Total NHS cost: £443,926.68	
Total weight of medicines waste: 972 tonnes	

A visit to one medicines waste plant highlighted how medicines are often returned to them in the wrong bins, for example, used needles and syringes being placed inside cardboard tablet cartons and put in standard medicines bins rather than sharps bins. As well as posing a risk to the waste management staff who handle this waste, it also increases the financial burden to the NHS due to the extra costs involved in additional sorting and processing. Non-medicinal objects are commonly being returned in pharmacy waste bins (such as face moisturisers, drink bottles and hearing aids) which increase the total number of bins filled and inflates the amount the NHS is charged for processing this waste.

Several community pharmacies reported that wasted medicines are often collected by the contracted waste management company at random times during a month, with one pharmacy reporting that their waste management driver sometimes visits twice a week. It was noted that this is an expensive way of collecting waste for two reasons. Firstly, the NHS is charged for every collection visit made, and secondly because the NHS is charged for every bin collected regardless of whether or not it is full.

The environmental impact of medicines waste is worrying. When wasted medicines are returned to waste management plants they are incinerated, mixed with oils and other chemicals and then pumped into landfill sites across the South West. Although this is in accordance with regulations, the long term effects of this remain unclear. During an e-mail conversation, Wessex Water Services Limited confirmed that our local sewage and river water is contaminated with pharmaceuticals that are used to treat type 2 diabetes, cardiovascular disease, high blood pressure and mental health conditions. When this was discussed with a representative of Avon Wildlife Trust, it was reported that contamination of anti-depressant medication in local sewage and river water has reduced the levels of local wildlife. It should be emphasised that the *drinking* water in Bristol is safe though.

6.7 The cost of medicines waste to Bristol CCG

The annual cost of primary care prescription medicines waste in the Bristol CCG area is difficult to calculate because it is impossible to determine exactly how much medicine is disposed of in household bins, flushed down toilets, given away to other people or charities, or stockpiled unused in people's homes. Although the total weight of medicines destroyed each year by the local waste management plant can easily be determined, the financial cost cannot, because community pharmacies do not keep a record of every item placed in a medicines waste bin. Study 'B' identified that 11% of patients who order all of

their medicines do so for a reason other than 'need', however there is no accurate way of calculating how much of this medicine will then subsequently be taken. The same argument can be applied to patients that are prescribed medicines they have not actually requested.

It is proposed that one method for calculating the annual cost of medicines waste across the Bristol CCG area would be to use patient medication concordance rates as a measure, as there is evidence base available to make predictions in this way. The following method has therefore been used to calculate the annual cost of prescription medicines waste to Bristol CCG:

1. Previous research has identified that 38% of patients who take medicines for chronic conditions are non-concordant with them⁵
2. The current population of Bristol is 442,400 (220,900 males and 221,500 females)¹⁷
3. 43% of men and 50% of women take at least one prescription medicine per week¹⁸. This equates to 94,987 males and 110,750 females in Bristol
4. Between October 2014 and September 2015, 8.2million prescription items were dispensed by prescribers attributed to Bristol CCG with a cost to the CCG of £58.4million and £7.12 being the subsequent average cost of each item¹⁹
5. It is estimated that about one-third of prescribed items are for acute conditions²⁰ and it is reasonable to suggest that patient concordance is higher in patients taking these medicines due to the presence of acute symptoms such as pain or discomfort
6. Across Bristol CCG, this equates to 205,737 people taking two thirds of the 8.2million prescription items dispensed. Therefore cost analysis beyond this point is based upon the 5.4million prescription medicines that have been prescribed for chronic conditions. This results in an average of 26 prescription items per year for patients resident in Bristol who take regular medication.

Using the non-concordance rate of 38%, it can be estimated that 78,180 patients in Bristol are not taking their medicines concordantly. On the hypothesis that 78,180 patients are not concordant with 26 prescription items at an average cost of £7.12 each, it is theorised that the annual cost of prescription medicines waste across Bristol CCG could potentially be as high as £14.4million. However, this figure assumes that all non-concordant patients do not take any of their prescription medicines which is untrue. Although some patients will be completely non-concordant and not take any of their medicines at all, some patients will be partially concordant because they will take some of their medicines (i.e. anything better than 0% concordance but worse than 100%). Previous research has identified that 39.5% of non-concordant patients are completely non-concordant and 60.5% are partially non-concordant⁵. Extrapolated for Bristol, this suggests that at least £5.7million of the Bristol CCG prescribing budget is attributed to patients who are completely non-concordant with their medicines. As there is no accurate way to determine how much medicine a partially-concordant patient actually takes, it is suggested that the figure of £5.7million is used as a minimum estimate for the annual cost of prescription medicines waste across Bristol CCG, with the caveat that this is an estimate.

6.8 Prediction of achievable cost savings

Previous research has estimated that between 30 and 50% of medicines waste cost is recoverable by commissioners⁶ suggesting that with medicines waste initiatives in place, Bristol CCG can expect to observe a recurring annual cost saving of up to £2.8million per year. We must bear in mind that this is an estimate.

7 DISCUSSION

Too much time, money and effort is being wasted on the supply and disposal of prescription medicines that are not wanted and/or taken by patients. This investigation has estimated that the cost of wasted prescription medicines in the Bristol CCG area is at least £5.7million per year, but it should be noted that this is a conservative estimate. It is likely that the true figure is actually a lot higher than this, but the exact scale of medicines waste in Bristol is impossible to unravel because there is no way of accurately knowing how much medicine people are flushing down toilets, disposing of in household waste bins, stockpiling unused until they expire, or giving away to other people. The contamination of non-medicinal items in community pharmacy waste bins confuses the issue further as this inflates the volume returned to waste management plants for processing each year. What is certain though is that the money the local NHS is spending on wasted medicines (both acquisition and disposal costs) would be better spent on improving patient care and implementing new services. It is not possible to avoid waste disposal costs by participating in medicines recycling schemes, so focusing on preventing medicines waste occurring in the first place is the only realistic option available.

It is important to consider the wider implications of medicines waste. Patients do not get therapeutic benefit from medicines they are not taking, which leads to poorer health outcomes, missed time off work or school, a preventable demand on acute services and additional treatments, and further congestion to an already overstretched healthcare system. The environmental impact of medicines waste is concerning, with local sewage and river water being contaminated with medicines and the subsequent effect this is having on the levels of local wildlife.

In an ideal world it would be possible to identify which stakeholder contributes the most to our medicines waste problem and therefore have the biggest responsibility for change. Unfortunately it is not possible to cleanly apportion responsibility because medicines waste occurs as a result of at least two stakeholders either performing an unnecessary task or neglecting to do something that would have prevented the waste occurring in the first place. But this investigation has identified that medicines waste is everybody's problem and all stakeholders involved in the supply of prescription medicines need to take responsibility for working to preventing it.

Preventing unnecessary prescription generation is the best place to start. This investigation found that most patients do not really want to take medicines when they are unwell but are not aware of what else they can try instead. Rather than generating prescriptions, the focus needs to shift more towards illness prevention, enhancing self-care, social prescribing and community wellbeing. Patients need to feel empowered to take more responsibility for their own health and wellbeing and need to be provided with the information and resources they need within their local community. Opportunities are being missed to improve patient health and wellbeing and cut unnecessary waste because local social prescribing alternatives are under-funded, under-commissioned and under-used. Bristol CCG needs to make optimal use of these services and ensure that healthcare professionals and local communities are equipped to support patients and know how to signpost them into these services. It should be remembered that self-care and personalisation of care is one of Bristol CCGs priority areas for 2015-16.

Improving the way prescriptions are requested will prevent unnecessary and/or unwanted prescription generation. GP practices are increasingly receiving prescription requests from community pharmacies and DACs on behalf of patients, leading to an increased workload

and confusion as to where prescriptions should be sent to. Many of these patients have reported receiving medicines they do not need and have not asked for; demonstrating that patients are not sufficiently involved in decisions around their medicines. Tighter restrictions need to be placed on who can request patients' prescriptions and there needs to be greater scrutiny over what medicines are actually issued each time. The generation of prescriptions in GP practices was often found to lack this scrutiny and be a process driven exercise rather than a patient-focused one. More training and support needs to be offered to prescription clerks and there needs to be regular opportunities for them to network with other clerks to share knowledge and ideas.

High prescribing quantities were reported as a common problem by several stakeholders, especially for anticipatory medicines and 'when required' medicines. Patients feel that there is not enough trial prescribing of smaller quantities to give them the opportunity to assess the therapeutic benefit of new medicines before deciding whether or not to request more. Bristol CCG should support prescribers by providing them with clear guidance outlining how much 'when required' medication to prescribe for patients in different situations. Not prescribing 'when required' medicines via the repeat dispensing system will further reduce unnecessary prescribing and medication stockpiling.

During this investigation several factors were found to inappropriately influence prescribing decisions. In the short term issuing a prescription may help to draw a 10-minute consultation to a close and may provide reassurance that the patient has been given something to alleviate their symptoms. But in the long term it is generating more (often unnecessary) work for GP practices because patients then return time after time for more prescriptions. It also guarantees more medicines waste which is not financially sustainable for the CCG. In future, all prescribers and prescription clerks need to 'think waste' before they issue prescriptions.

Bristol CCG needs to be assured that the clinicians prescribing for individual patient groups are the ones with the most knowledge and expertise in that area. This is why the responsibility for prescribing stoma and continence appliances should transfer over to a team of specialist nurses who better understand these products and the needs of these patients. This investigation has identified that there is significant over requesting and over prescribing of stoma and continence appliances, which is resulting in inappropriate products being supplied to patients without specialist nurse input, stockpiling and preventable waste. DACs currently hold too much influence over prescribing decisions and primary care is paying the price. Transferring the responsibility for this prescribing will significantly reduce this problem.

Many valuable opportunities are being missed to improve patient care and reduce medicines waste by enhancing patient concordance with medicines. Non-concordance should not be viewed as the patient's problem, because in reality it demonstrates a fundamental failure in the way healthcare has been delivered to that patient. When patients are prescribed medicines it is important that they receive as much information about them as possible, especially when first initiated. Patients have reported that not understanding the benefits of taking their medicines has reduced their concordance. They have also reported concerns around drug and brand switches. The latter will always be necessary to ensure optimal patient care and the best use of NHS resources, so the key is to ensure that medication changes are communicated to patients in a way that does not reduce their trust and therefore their concordance with their medicines. Some services exist in community pharmacies to provide patients with support and information about their medicines, but not enough is being done to promote these services, and more could be

done to target patients who have been recently initiated on a new medicine and thus require a deeper level of information and support.

Bristol CCG needs to increase the support available to housebound patients and older patients with long term conditions with their medicines, as these are the patients that have the most difficulty accessing advice and support from their GP or pharmacist. This would improve patient health and wellbeing and reduce unnecessary polypharmacy and waste. The existing services commissioned to support patients after recent discharge from hospital would not have the capacity to manage these additional demands.

Poor information transfer across healthcare organisations is resulting in unnecessary prescribing, medication stockpiling and ultimately medicines waste. Information regarding changes in medication regimens and hospital admissions and discharges is slow in reaching community pharmacies, although it is noted that hospital trusts are working to address this. Issues around patient non-concordance with medicines are not reaching GP practices, or do reach but are not then translated into an intervention. There are many opportunities to improve communication links between GP practices and other healthcare professionals working in primary care for the ultimate benefit of patients.

Carers lack skill and training in medicines administration but this can (and should) be addressed. Adding the clinical indication of medicines to the dispensing labels would improve carer and patient knowledge, enhance medicines administration and improve patient concordance with medicines. Jointly commissioning an ongoing medicines training programme for domiciliary carers would better support carers and patients, reduce the demand on acute services and facilitate hospital discharge. It should be considered that the preventable waste uncovered during this investigation is not just limited to medicines, but also to waste associated with the inappropriate use of primary and secondary care services and the unnecessary workload that this brings.

Care homes and CHwN need more training and support with managing medicines. Many carers and nurses working within this sector lack knowledge of the clinical indication for medicines (especially for 'when required' medicines) which results in medicines being re-ordered unnecessarily. Nurses often lack the confidence to challenge prescribers about their prescribing decisions and therefore reducing polypharmacy is not a priority for CHwN staff. The provision of medicines-related training for Bristol CHwN is very variable and appears to be dependent upon which community pharmacy they use and the access they have to available training. This lack of training and knowledge is leading to suboptimal medicines management in homes and the disposal of medicines that are still appropriate to use. Historically it has always been considered that as private companies care homes and CHwN should seek out and fund their own training, but if Bristol CCG does not support homes with this medicines waste will continue to occur and the local NHS will ultimately pay for it. Developing a Medicines Management Framework and co-commissioning an ongoing medicines-related training programme for homes will reduce inappropriate polypharmacy and medicines waste.

Bristol CCG should seek to investigate the root causes of prescribing and dispensing errors in GP practices and community pharmacies. Although not observed to be a significant contributor of medicines waste, the fact that 3% of patients surveyed reported being non-concordant with their medicines as a result of noticing an error is worrying. Even more concerning is the patient harm that could occur as a result of these errors. Investigating the root causes of errors is important to ensure that GP practices and community pharmacies work as safely as possible and can prevent them happening again.

Keeping patients' own medicines safe in hospitals by ensuring patients are not separated from them will help to prevent the inappropriate disposal of medicines and the workload and costs associated with resupplying them. This is an area which was found to generate a lot of discontent amongst patients, resulting in concerns about unfamiliar brands and packaging, and disapproval over the perceived waste of NHS resources. The release of this report and the planned medicines waste campaign for 2016 will draw public attention to the problem of waste in the local NHS area, so the loss and/or disposal of unused medicines in hospitals is an area that is likely to receive further criticism unless strategies to address this problem are implemented.

New technologies over recent years such as repeat dispensing and electronic prescribing have been designed to make prescribing easier, but the problem is that as processes evolve, so do the opportunities for medicines waste to occur. For this reason Bristol CCG must use the findings of this investigation as a driver for change and ensure that reducing medicines waste becomes a key feature on all future work plans. This report contains a series of recommendations which, if implemented, will reduce the problem across the city. It is recommended that these are followed to ensure patients receive optimal care and treatment and that the CCG is making the most effective use of limited NHS resources. If action is not taken, the problem will only get worse.

Medicines waste is a national problem and not just a Bristol problem. It should be noted that the findings and recommendations in this report are based upon an investigation undertaken across Bristol within a limited one-year timeframe. As such it is recognised that there may be additional contributors to waste that have not been identified and therefore not included in this report. However this highlights the importance for a continued focus on identifying and developing waste reduction strategies within Bristol CCG. It should also be noted that whilst these recommendations are appropriate for the Bristol CCG area, other CCGs across England may find them valuable when seeking ways to reduce medicines waste in their own area.

8 CONCLUSION

Wasted medicines drain valuable resources that would be better spent on improving patient care and implementing new NHS services. The implications of medicines waste are significant. Patients cannot gain therapeutic benefit from medicines they do not take, and not taking them places a huge burden on health services across both primary and secondary care. There needs to be tighter restrictions around prescription requesting and prescribers need guidance and information on how they can contribute to waste reduction efforts. Ultimately the responsibility for prescribing should sit with the clinician that is best informed to do so. Carers and care organisations responsible for safeguarding and administering medicines need adequate training and support to undertake this role. Patients should receive optimal information about the benefits of taking their medication and how they can receive additional support from their local community pharmacy. Reducing medicines waste needs to become a high strategic priority for Bristol CCG and should feature on all future work plans.

9 RECOMMENDATIONS

1: Raise awareness of the problem of medicines waste

Overview

Raise awareness of the problem of medicines waste to all stakeholders across Bristol. Advise how they can help to reduce the problem and the subsequent wider benefits to all if this is achieved. Change behaviour around the requesting, supply and disposal of prescription medicines.

Aims

- Raise awareness of the scale, costs and wider implications of wasted medicines
- Increase patient concordance with medicines
- Increase acceptance of generic prescribing and changes in the brand they are prescribed; dispelling patients' myths around medicines
- Reduce unnecessary prescribing workload for GP practices
- Reduce inappropriate prescription requests
- Promote the safe and appropriate storage and disposal of medicines
- Increase the awareness of available medicines support
- Increase communication of medication non-concordance issues
- Reduce the risk and occurrence of medicines-related incidents

Action

Bristol CCG should:

- Promote the findings of this investigation to all stakeholders across Bristol
- Advise stakeholders how workflow systems can be improved to reduce the risk of medicines waste, and work with stakeholders to help achieve this
- Advise community pharmacies that the *number* of medicines waste bins returned determines the cost of collection and disposal to the NHS. Pharmacies should be advised to maximise the use of each bin by removing as much recyclable and unnecessary packaging as possible; resulting in fewer bins filled
- Design and launch a medicines waste campaign across Bristol, promoted by GP practices, community pharmacies, hospital trusts, media and via the EMIS Patient Access website. The table below lists the key messages that should be promoted to the public and the healthcare professionals who should disseminate each message:

Table 4: Key messages for stakeholders to deliver

Key message	Bristol CCG	GP practices	Community pharmacies	Hospital trusts
The scale of the medicines waste problem in Bristol	✓	✓	✓	✓
How to reduce medicines waste	✓	✓	✓	✓
Who can offer medicines support to patients	✓	✓	✓	✓
Using the correct waste bins (for healthcare professionals)	✓			
What to do with unwanted/excess medicines	✓	✓	✓	✓
How healthcare professionals can report known or suspected medicines waste issues	✓			
The importance of complete concordance with medicines	✓	✓	✓	✓
The importance of communicating medication non-concordance	✓	✓	✓	✓
The problems and dangers of stockpiling medicines	✓	✓	✓	✓
What to do about excess medicines at home	✓	✓	✓	✓
How to order repeat prescriptions correctly	✓	✓	✓	
Generic and switched medicines: dispelling the myths	✓	✓	✓	
Storing medicines appropriately	✓	✓	✓	✓

Financial considerations

To have the maximum impact it is advised that Bristol CCG runs a medicines waste campaign with materials that have already been tried and tested by other CCGs, so that there is already evidence of the success of that approach.

2: Improve prescription management in GP practices

Overview

Enhance the skills and knowledge of prescription clerks in GP practices; ultimately improving record keeping and the management of repeat prescriptions. Enhance communication links between GP practices, CCGs and other healthcare stakeholders.

Aims

- Promote robust repeat prescription management and record keeping in GP practices
- Increase the skills and knowledge of prescription clerks across Bristol
- Enhance the management of hospital discharge information
- Promote synchronisation in prescribing for care home, CHwN and MCA patients
- Increase patient concordance with medicines through enhanced communication links
- Share best practice with other Bristol GP practices and the CCG
- Provide a mechanism for communicating prescribing and medicines waste issues back to Bristol CCG

- Promote engagement with CCG projects and initiatives within GP practices
- Promote evidence-based, cost-effective prescribing

Action

Bristol CCG should:

- Develop and commission a Medicines Management Administrator (MMA) role in all GP practices:
 - Consider who will lead the service within Bristol CCG
 - Consider practice pharmacist input for supporting MMAs
 - Deliver/commission an ongoing MMA training programme, to include:
 - Overview of the clinical indications of common medicines
 - Record keeping
 - When to issue/not issue prescriptions and why (including checking medication review and monitoring tests have been completed)
 - Process for communicating prescription rejections to patients
 - Managing changes in medication regimens
 - Dealing with hospital discharge prescriptions
 - Social prescribing
 - EMIS patient searches
 - Completing medicines management projects and medication switches
 - Reviewing returned NMS and MUR forms and ensuring action is taken to improve patients' pharmaceutical management
 - Supporting waste reduction
 - Develop a MMA support network (online and via quarterly meetings)
- Work with One Care Consortium to allow previous learning from GP practice process mapping work to feed into the development of this role.

Financial considerations

Bristol MMAs should be paid the same hourly rate as North Somerset CCG MMAs to ensure that practice participation is not reduced on the grounds of funding inequality.

3: Reduce prescribing to reduce waste

Overview

Prescribe less of the medicines that cause the greatest amount of waste, ensure patients are prescribed the most appropriate medicines, and provide more information to patients about their medicines to increase concordance with treatment.

Aims

- Improve the health and wellbeing of patients
- Increase patients' concordance with their medicines
- Increase patient, nurse and carer knowledge of the clinical indications of medicines
- Promote trial prescribing; allowing assessment of therapeutic benefit and reducing the risk of medicines waste
- Reduce the prescribing of the commonest contributors to medicines waste
- Reduce polypharmacy
- Reduce unnecessary or inappropriate GP practice workload and spend on prescription medicines
- Promote the best use of medicines

Action

Bristol CCG should:

- Provide greater clarity to GPs on the prescribing of anticipatory medicines for patients in Bristol CHwN
- Develop a local repeat dispensing patient inclusion and exclusion criteria for prescribers. It is recommended that patients currently prescribed 'when required' medicines, those requiring frequent review including dose changes, and those living in care homes and CHwN are excluded from the scheme
- Develop further work programmes for practice pharmacists for identifying patients on repeat prescriptions who no longer need/use their medicine
- Monitor the effect on prescribing levels and medicines waste as a result of the recent Bristol-wide launch of electronic prescribing

Bristol CCG should advise prescribers to:

- Consider prescribing lower quantities of analgesia each time, especially when initiating a new analgesic (e.g. increase 'trial' prescribing and prescribe 30 instead of 100)
- Check that all care home and CHwN patients have had their pain assessed using a recognised pain assessment tool before prescribing analgesics and follow the BNSSG prescribing guidelines on pain management, which can be found here: <http://www.bnssgformulary.nhs.uk/Local-Guidelines/>
- Only prescribe one inhaler when trialling a new inhaler and not add this to a patient's repeat prescription list until a positive clinical response has been determined after the patient has returned for review
- Prescribe no more than one month's supply of an anti-hypertensive medicine when first trialling treatment or a dose increase with treatment, and not automatically add it to a patient's repeat prescription list until their maintenance dose has been stabilised
- Prescribe no more than one small tube of cream to try when first initiating topical treatment
- Not prescribe more than 28 days' supply of any newly initiated medicine and not add it to a patient's repeat prescription list until it has been deemed clinically effective after follow-up review
- Restrict 56 and 84-day prescribing to patients who are stable on their prescribed medicines regimen
- Not prescribe higher quantities of medicines for patients just because they have to pay for their prescriptions
- Reserve repeat dispensing only for clinically stable patients who have been on regular medicines for at least one year and whom are known to be fully concordant with their medicines regimen
- Not prescribe 'when required' items under the repeat dispensing scheme
- Reduce the number of 'when required' medicines that are added to repeat prescription lists; especially analgesics, inhalers and creams. These should only be prescribed as 'acute' until patients have confirmed therapeutic benefit
- Implement bulk prescribing for CHwN patients for laxatives and thickening agents
- For some medicines (such as calcium and vitamin D) consider prescribing the brand that individual patients will actually take, rather than the brand that carries the lowest acquisition cost.

Financial considerations

Increasing the use of 'trial' prescribing will ensure patients are prescribed the most appropriate medicines for their needs and reduce NHS costs associated with non-concordance and medicines waste.

4: Support self-management and social prescribing

Overview

Reduce medicines waste, polypharmacy and unnecessary prescribing by using a range of non-medical interventions to enhance patients' health and wellbeing.

Aims

- Increase the availability, awareness and use of local non-pharmacological self-management services across Bristol
- Improve outcomes for patients through more effective management
- Encourage patient flow into community-based projects and groups rather than GP practices
- Reduce patient demand on GP practices and hospitals
- Encourage patients to seek treatment locally rather than go to A&E
- Build on community assets in the interest of the long term sustainability of health care systems
- Increase patient confidence in self-management
- Build resilience within local communities
- Reduce unnecessary and potentially hazardous polypharmacy
- Reduce unnecessary prescribing; reducing workload for GP practices and prescribing costs for the CCG

Action

Bristol CCG should:

- Consider the current gaps and lack of funding in social prescribing services identified by the CCG social prescribing scoping exercise
- Commission social prescribing services across Bristol, including those from community and voluntary sector organisations, ensuring there is a clear, quality assured, referral process and monitoring outcomes:
 - Focus on pathways for patients with long term and mental health conditions as these patients are most likely to gain benefit from social prescribing
 - Ensure that both prescribers and patients can refer into these services
 - Incentivise every GP practice to have a 'wellbeing champion' who can signpost patients to local non-pharmacological services (this could form part of the MMA role as specified in Recommendation 2)
 - Support public health-trained community health champions with information and training on available wellbeing options and how to access them
- Consider developing an EMIS-embedded social prescribing facility for GP practices
- Continue to jointly commission an effective online social prescribing information resource, developed and maintained for prescribers and navigators. This should be searchable by condition or needs-based criteria for each locality
- Develop written information resources for patients and local health champions on non-pharmacological alternatives

- Commission high quality, cost-effective patient self-management programmes across Bristol, advising and supporting organisations in the development of such programmes if necessary
- Communicate and promote the availability and use of non-pharmacological alternatives to prescribers through CCG communications, training and social prescribing events

Financial considerations

This preventative approach has huge potential for reducing waste, improving efficiency and saving money. Prescribing savings could be used to fund the social prescribing and community support initiatives stated above.

5: Improve the management of prescription requests in community pharmacies

Overview

Reduce inappropriate and/or unnecessary prescription requests from community pharmacies and ensure they provide training and support to care homes and CHwN in their prescription ordering processes.

Aims

- Reduce inappropriate prescription requests from community pharmacies and the medicines waste attributed to this
- Reduce polypharmacy and medicines stockpiling in patients' homes
- Increase patient involvement in decisions regarding their treatment and care
- Streamline systems of work in GP practices, care homes, CHwN and community pharmacies
- Reduce unnecessary workload in GP practices
- Reduce CCG spend by reducing inappropriate or unnecessary prescribing

Action

Bristol CCG should discuss the findings of this report with NHS England and advise them of the urgent need to:

- Reduce inappropriate community pharmacy repeat prescription requesting:
 - Undertake a more detailed assessment of prescription requesting processes in community pharmacies, focusing on:
 - Pharmacy staff training/knowledge around prescription requesting
 - Working processes/procedures and the quality of record keeping
 - Patient involvement in decision-making
 - Develop a strict inclusion criteria for patients who may have their prescriptions requested by a community pharmacy, and the importance of embedding this within local policy
 - Support Bristol GP practices in adhering to these criteria
- Work with community pharmacies and local care homes/CHwN to ensure that the service community pharmacies provide to them:
 - Is tailored to the needs of the patient and home organisation
 - Supports the learning needs of care home and CHwN staff

Bristol CCG should:

- Work with NHS England and NHS Business Services Authority to influence national guidance and recommendations on this patient inclusion criteria
- Re-audit the appropriateness of community pharmacy prescription requesting in 12 months to assess any improvement in practice
- Advise and support care home/CHwN staff in streamlining medication ordering processes within their home

Financial considerations

Reducing the number of inappropriate or unnecessary prescription requests from community pharmacies has the potential to provide Bristol CCG with significant savings through prevented prescribing.

6: Improve communication between GP practices and community pharmacies

Overview

Ensure optimal information transfer between GP practices and community pharmacies; reducing inappropriate or unnecessary prescribing and ensuring patients are recommended or prescribed the most appropriate and effective medicines for their condition.

Aims

- Improve patient care, management and health outcomes
- Increase patient concordance with their medicines
- Improve the service currently provided to patients
- Improve communication links and information transfer between GP practices and community pharmacies
- Create joint learning opportunities
- Reduce delays in patients receiving their medicines
- Reduce the risk of prescribing or dispensing errors and near misses
- Reduce unnecessary or inappropriate prescribing workload in GP practices
- Reduce prescribing spend and medicines waste

Action

Bristol CCG should:

- Work with GP practices and community pharmacies to improve the current processes used to transfer information between the two settings, designing a framework for optimal information transfer. To include:
 - Changes in patients' medication regimens
 - Hospital admissions and discharges
 - Identified medicines concordance issues
 - New private or NHS services being provided in either establishment
 - Changes in internal policies relating to prescribing or dispensing
- Support GP practices and community pharmacies in adopting this new framework across Bristol
- Investigate and develop a pilot for the sharing of electronic patient information across GP practices and community pharmacies, with clear safeguards for consent and confidentiality (e.g. providing community pharmacies with a limited access to the EMIS system)
- Work with GP practices and community pharmacies to facilitate improvements in NMS and MUR, to include:

- Clarity for both GP practices and community pharmacies on what NMS/MUR aims to achieve
- Define patient selection – which patients would GP practices prefer community pharmacists to focus on?
- Agree the best feedback mechanism with GP practices
- Optimal management of NMS/MUR return forms and activity as a result of any key findings
- Constructive feedback to community pharmacists on their NMS/MUR

Financial considerations

This recommendation will save money and reduce medicines waste by reducing inappropriate or unnecessary prescribing and dispensing.

7: Provide more information for better concordance

Overview

Increase patient knowledge on ordering and taking their medicines, leading to enhanced patient self-management and optimal concordance with medicines.

Aims

- Increase patient concordance with medicines
- Increase patients' health outcomes and wellbeing
- Increase patient knowledge around the optimal use of their medicines
- Increase medicines-related support for patients
- Reduce the risk and number of hospital attendances and admissions attributed to poor medicines concordance
- Reduce the demand on additional NHS services attributed to poor medicines concordance
- Reduce medicines stockpiling in patients' homes
- Reduce inappropriate or unnecessary prescription requests and workload in GP practices
- Reduce unnecessary CCG spend on prescription medicines

Action

Bristol CCG should ensure that all GP practices in Bristol:

- Provide clear written information to patients on:
 - The different options available for ordering repeat prescriptions
 - The correct way to order repeat prescriptions

Bristol CCG should liaise with NHS England, the LPC and community pharmacies to ensure that all community pharmacies in Bristol provide clear, written information to patients on:

- The different options available for ordering repeat prescriptions
- The correct way to order repeat prescriptions
- How pharmacies can support patients with their prescription ordering
- The importance of telling the pharmacist if you already have enough medicines at home and how you can help reduce medicines waste

Bristol CCG should liaise with NHS England and the LPC and advise them how community pharmacies should focus on:

- Enhancing the identification of patients who have been initiated on a new medicine so that more comprehensive advice and support can be offered to patients
- Ways to better identify patients who are non-concordant with their medicines, enabling better support for patients
- The feasibility of implementing a text messaging service to remind patients when they have owed medication available for them to collect
- How patients can be steered towards pharmacies rather than GP practices to promote the self-care agenda
- How community pharmacies must ensure that, in future, patients are informed of the dates of their next review, as listed on repeat prescription forms

Bristol CCG should ensure that:

- Prescribers and community pharmacists are supported in providing patients with optimal information when new medicines are initiated:
 - How the medicine works
 - The importance of taking it as prescribed
 - Whether or not the patient will 'feel' it working/what to expect
 - The benefits of taking it outweighing any side-effects
- When medicines are switched to another drug or brand, all patients are provided with written information outlining:
 - The reason why the medicine has changed
 - How the medicine should be taken
 - How the medicine is just as safe, efficacious and high quality as the previous medicine and that the patient should not notice any difference
 - Why it is important to take the new medicine exactly as prescribed
 - The benefits of taking it outweighing any side-effects
 - What the patient should do if they have any questions or concerns about the new medicine
- Practice pharmacists, as part of ongoing work and CCG-developed projects, should support GPs by undertaking six-monthly/annual patient medication reviews, providing the most focus on patients taking medication from BNF chapters 1,2,3,4 and 9. If provided with a limited access to the EMIS prescribing system and remunerated appropriately, community pharmacists would also be well placed to support GP practices with this
- Practice pharmacists undertake follow-up reviews of patients with long term conditions who have been initiated on a new medicine within the last three months

Bristol CCG should work with local hospital trusts to:

- Formulate a strategy for enhancing the quality of information provided to patients about their medicines:
 - When a new medicine has been initiated during hospital stay
 - Before they are discharged from hospital

Bristol CCG should work with the West of England Academic Health Science Network on a project to implement the addition of clinical indications on all dispensing labels for patients, regardless of whether the medicine has been prescribed by a primary or secondary care prescriber (<http://clinicalindications.com/>).

Financial considerations

Reducing non-concordance with medicines will save money by reducing the costs associated with additional healthcare interventions and the cost of medicines disposed of at waste management plants.

8: Promote optimal medicines management in care homes

Overview

Model the optimal management of medicines in care homes with and without nursing and enhance the skills and knowledge of staff working in this setting.

Aims

- Increase the quality of care for and the health and wellbeing of service users in care homes and CHwN
- Improve the management of medicines in Bristol care homes and CHwN
- Provide homes with a method for measuring compliance with optimal pharmaceutical standards
- Sustainably enhance the skills and knowledge of care home and CHwN staff; reducing the variation that exists across Bristol
- Support homes in meeting CQC standards
- Improve working processes around the requesting, issuing, dispensing and administration of prescription medicines in care homes and CHwN
- Increase pharmaceutical support to Bristol care homes and CHwN
- Enhance communication between the homes, GP practices and community pharmacies
- Reduce inappropriate prescription requests
- Reduce GP practice workload and time spent dealing with medicines-related problems

Action

Bristol CCG should:

- Develop a 'Medicines Management Framework' modelling the CCGs expected standards of medicines management in care homes and CHwN; ensuring this is disseminated to company owners, home managers and the Care Quality Commission (CQC)
- Model the optimal communication pathway between care homes/CHwN, GP practices and community pharmacies, working with stakeholders to implement this
- Develop and commission/co-commission an ongoing, sustainable medicines training programme for home staff, with at least one training event run every quarter. The training should include:
 - The Bristol CCG 'Medicines Management Framework'
 - Medicines storage
 - Medicines administration
 - Stock control
 - Ordering prescriptions and carrying stock forward
 - Reducing medicines waste
 - Covert administration and crushing medicines
 - Managing 'when required' medicines
 - Record keeping
 - When to question prescribing with the prescriber
- Work with community pharmacies and home managers to model and implement more efficient ways of managing repeat prescriptions in pharmacies, care homes and CHwN.

Financial considerations

It is recommended that if possible the training is funded jointly between Bristol CCG and Bristol City Council.

9: Pharmacy technician-led Medicines Support Service (domiciliary visits)

Overview

Support vulnerable and/or non-concordant patients with their medicines, ensuring optimal health outcomes for patients and seamless pharmaceutical care across transfers of care.

Aims

- Improve support and health outcomes for patients with medication issues
- Improve the management of patients who are prescribed complex medicines regimes
- Improve pharmaceutical care for patients recently discharged from hospital
- Enhance patient concordance with medicines
- Reduce medication stockpiling in patient's homes
- Enhance communication between healthcare stakeholders
- Improve links between primary and secondary care in the pharmaceutical management of patients
- Reduce unnecessary workload in GP practices sorting out medication and prescription problems
- Prevent hospital admissions attributed to medicines-related issues
- Reduce unnecessary or inappropriate prescribing
- Reduce the demand for care and community nursing services
- Broaden the skills, knowledge and experience of hospital-based pharmacy technicians leading to improved job satisfaction, staff retention and better patient care

Action

Bristol CCG should:

- Initially pilot and then commission/co-commission a pharmacy technician-led Medicines Support Service for patients in primary care with suspected or known medication issues, accessible by referral against a specific criteria
- Consider jointly-hosting the service across primary and secondary care, utilising the skills, knowledge and experience of medicines management-accredited hospital pharmacy technicians; enabling seamless pharmaceutical care across transfers of care (see Appendix 7 for brief service outline)
- Consider aligning the Medicines Support Service with community matron teams as an alternative strategy

Financial considerations

This service could be part-funded by Bristol City Council given that it will reduce the amount of time Council-commissioned carers spend visiting patients to sort out medicines-related problems, or local hospital trusts as it will prevent admissions and readmissions to hospital.

10: Transfer the prescribing of continence appliances

Overview

Transfer the responsibility for continence appliance prescribing over to the healthcare professional that knows most about them and who can ensure they are prescribed appropriately. Ensure the best prices are negotiated for products, with one formulary across primary and secondary care.

Aims

- Improve patient care and the service patients receive
- Reduce inappropriate and unnecessary prescribing
- Reduce the spend on continence products; enabling reinvestment into developing continence services
- Reduce the over-treating of patients attributed to inappropriate sample supply
- Ensure that the responsibility for prescribing continence products sits with the most appropriately qualified healthcare professional
- Increase the skills and knowledge of nurses working in Bristol CHwN
- Reduce preventable hospital admissions attributed to urinary tract infections
- Stop the influence DACs hold over prescribing decisions
- Reduce unnecessary workload and queries in GP practices

Action

Bristol CCG should:

- Ensure there is one continence prescribing formulary across both primary and secondary care in Bristol, reducing variation in prescribing
- Ensure that the products included in the formulary have been selected after a tendering or cost analysis exercise; ensuring Bristol CCG can obtain high quality, value for money continence products
- Transfer the responsibility for prescribing continence appliances and associated accessory items in primary care from GP practices to a continence nurse-led team
- Ensure that the provision of ongoing, regular training for CHwN nurses forms part of the commissioning agreement

Financial considerations

This recommendation will improve the care and service patients receive and will provide the CCG with significant cost savings through the cost-effective purchase and prescribing of continence appliances.

11: Transfer the prescribing of stoma appliances

Overview

Shift the responsibility for prescribing stoma appliances over to specialist stoma nurses who are best informed on their use. Reduce unnecessary costs attributed to inappropriate prescribing. Ensure the highest quality, cost-effective products are prescribed.

Aims

- Improve patient care and the service stoma patients receive; meeting patient preferences
- Reduce inappropriate and unnecessary prescribing

- Reduce the spend on stoma products to enable reinvestment into commissioning stoma services
- Reduce the over-treating of patients attributed to inappropriate sample supply
- Ensure that the responsibility for prescribing sits with the most appropriately qualified healthcare professional
- Stop the inappropriate influence DACs currently hold over prescribing decisions
- Reduce unnecessary workload in GP practices

Action

Bristol CCG should:

- Shift the responsibility for prescribing stoma appliances from GP practices over to a stoma nurse-led team in primary care who will manage the service
- This shift in stoma appliance prescribing should occur *before* the shift in continence appliance prescribing - the highest proportion of medicines waste sits with stoma prescribing
- Work with stoma nurses to develop a stoma prescribing formulary across Bristol for accessory products such as sprays, wipes, cleansers and creams

Financial considerations

The cost savings in this recommendation will be achieved through stopping the supply of clinically inappropriate samples to patients, by ensuring the best quality and value for money from stoma appliances and accessories, and by better scrutiny of prescription requests.

12: Reduce prescribing and dispensing errors

Overview

Establish the root causes of prescribing and dispensing errors and develop strategies to reduce their incidence.

Aims

- Increase patient health, outcomes and safety through safer prescribing and dispensing
- Identify and promote safer ways of working across primary care
- Identify the root causes of errors and near misses to enable the development of strategies to reduce their occurrence
- Reduce the risk of and actual patient harm
- Reduce hospital attendances and admissions attributed to prescribing and dispensing errors
- Reduce medicines waste attributed to prescribing and dispensing errors
- Reduce NHS costs attributed to litigation, patient complaints and additional health interventions

Action

Bristol CCG should:

- Consider partnering with the West of England Academic Health Science Network and/or the University of Bath to develop a research project investigating the root causes of prescribing and dispensing errors in primary care. The research should include:
 - The factors that were found to influence errors and near misses

- A series of recommendations and strategies for Bristol CCG, GP practices and community pharmacies on ways to reduce the incidence of errors

Financial considerations

A funding stream for this research would need to be identified, in collaboration with the West of England Academic Health Science Network and/or the University of Bath.

13: Improve the safekeeping of medicines in secondary care

Overview

Take measures to ensure that patients are not separated from their medicines during transit to other wards; reducing the disposal of primary care-dispensed prescription medicines and preventing unnecessary re-dispensing and waste.

Aims

- Prevent the loss and wastage of patients' own medicines during their hospital stay
- Enhance patient concordance with medicines
- Reduce preventable costs associated with the inappropriate disposal of medicines in both primary and secondary care

Action

Bristol CCG should

- Make the timely transfer of patients' own medicines across hospital wards a Commissioning for Quality and Innovation (CQUIN) target for hospitals, to include:
 - Measuring ward compliance with hospital medicines policies by auditing:
 - The wards which have the highest incidence of not transferring patients' own medicines
 - Factors which increase the probability/risk of patients' own medicines becoming lost/separated from patients
 - The amount of patient's own medicine inappropriately left on wards or returned to pharmacy for disposal instead of being transferred with patients
 - Using the results of the audit to develop strategies for preventing the loss of patients' own medicines:
 - Updating medicines policies where appropriate
 - Ensuring written communication reaches all ward staff
 - Providing training for ward staff
 - Making patients' own medicines more easily identifiable in hospitals

Financial considerations

This recommendation will save the NHS money by reducing unnecessary dispensing duplication and the costs associated with medicines disposal.

14: Provide guidance, training and support to healthcare workers

Overview

Provide guidance and support to prescribers and carers, reducing unnecessary prescribing.

Aims

- Improve patient care and wellbeing
- Increase patient concordance with medicines
- Increase patient support with non-pharmacological options for improving health and wellbeing
- Promote 'trial' prescribing; ensuring patients are prescribed the optimal therapy to manage their condition
- Increase the skills, knowledge and confidence of carers in administering medicines
- Reduce delays in hospital discharge attributed to medicines-related issues
- Reduce unnecessary and/or inappropriate prescribing, polypharmacy and GP practice workload

Action

Bristol CCG should:

- Develop and disseminate guidance for prescribers on:
 - Trial prescribing of analgesics, creams, laxatives and other 'when required' medicines (see Recommendation 3)
 - Medicines that can be crushed, opened or split and ensure all prescribers are aware of a website link to access this information
- Promote to prescribers and prescribing clerks the importance of aligning prescribing cycles for care home and CHwN patients; reducing the risk of 'leftover' medicines and subsequent medicines waste
- Ensure that all Bristol CHwN possess or know where to access a list of all the community pharmacies signed up to the Specialist Medicines Local Enhanced Service
- Work with Bristol City Council to develop a policy and co-commission training for domiciliary carers on administering medicines from both a MCA and ordinary medicines containers. The CCG should decommission care agencies that refuse to participate in this training or to administer medicines to patients
- Ensure that training and information is available to community pharmacies to increase their awareness of how they can support the local self-care and wellbeing agendas

Financial considerations

This approach will save money through reducing unnecessary and/or inappropriate prescribing, reducing missed doses and enhancing medicines concordance.

15: Ensure medicines waste remains high priority

Overview

Ensure that waste reduction is high on the local NHS agenda, with the recommendations of this report being implemented across Bristol to ensure high quality, evidence-based and cost-effective pharmaceutical care for all patients.

Aims

- Ensure that tackling medicines waste remains high on the CCG work plan and agenda
- Ensure that medicines waste reduction initiatives are continually developed and implemented
- Reduce unnecessary or inappropriate prescribing

- Ensure the continual review of working processes; identifying opportunities for further waste reduction
- Increase the support for stakeholders on waste reduction initiatives
- Provide all stakeholders with a nominated point of contact regarding medicines waste issues
- Increase the promotion and utilisation of non-pharmacological alternatives for improving patient health and wellbeing
- Raise awareness of the most cost-effective working processes and prescribing options

Action

Bristol CCG should:

- Recruit a permanent 'Medicines Waste Project Manager' post (Band 7) within the Medicines Management team at Bristol CCG. Responsibilities should include:
 - Developing and implementing strategies for reducing medicines waste and unnecessary/inappropriate prescribing
 - Ensuring waste reduction strategies are continually developed and incorporated into CCG work plans
 - Developing strategies to ensure the best use of prescription medicines when prescribing cannot be avoided
 - Promoting evidence-based and cost-effective alternatives to prescribing
 - Taking a leading role in developing Bristol CCGs self-care and social prescribing strategy
- Recruit a permanent 'Medicines Waste Project Officer' post (Band 4) to support the Medicines Waste Project Manager in implementing these strategies.

Financial considerations

Given the huge scale of the medicines waste problem across Bristol, these posts would easily pay for themselves and generate substantial recurring savings for the CCG.

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11 GLOSSARY/EXPLANATION OF TERMS USED

Adherence	Adherence to medicines is defined as the extent to which the patient’s action matches the recommendations agreed between the patient and the prescriber.
Compliance	Medicines compliance describes the degree to which a patient correctly follows healthcare professional advice on taking their medicines.
Concordance	Medicines concordance is an agreement reached between a patient and a healthcare professional in determining whether, when, and how medicines are to be taken.

Dispensing Appliance Contractor (DAC)	A supplier of appliances such as incontinence and stoma products on receipt of a prescription.
Electronic prescribing	A technology that allows prescribers to write and send prescriptions to a community pharmacy electronically rather than using handwritten prescriptions.
FP10	An English prescription form issued by doctors, independent prescribers or supplementary prescribers (e.g. a nurse or pharmacist).
Medicines optimisation	A person-centred approach to safe and effective medicines use, ensuring people obtain the best possible outcomes from their medicines.
Medicines Use Review (MUR)	A service offered by community pharmacies. The review involves an appointment with a pharmacist in a private consultation room.
Multi-compartment compliance aid (MCA)	A multi compartment compliance aid is a device that allows medicines to be packaged in individual compartments either by patients, carers or pharmacists. These often contain more than one medication in each blister.
New Medicines Service (NMS)	An advanced service offered by community pharmacies. This supports patients in maximising the benefits of the medication they have been prescribed.
Repeat dispensing	A system whereby community pharmacists can dispense regular medicines to patients, according to an agreed protocol, without the direct involvement of the GP surgery on each occasion the repeat medicine is required.
Repeat prescribing	Where medicines that are needed regularly are reissued without the patient having to see their doctor.

12 APPENDICES

Appendix 1

'Study 'A' – Summary of Community Pharmacy Repeat Prescription Request Audit

Overview

A community pharmacy repeat prescription request audit was developed to investigate the appropriateness of community pharmacy prescription requests, as part a Practice Quality & Productivity Scheme project in Bristol GP practices during Quarter 4 of financial year 2014-15.

Aims

- To investigate the appropriateness of repeat prescription requests submitted by community pharmacies
- To investigate the reasons behind inappropriate prescription ordering
- To identify communication gaps between patients, community pharmacies and GP practices
- To identify training needs with regards to repeat prescription ordering
- To help identify potential strategies for reducing medicines waste

Method

An audit was completed by Bristol GP practice prescription clerks or practice pharmacists, after reviewing the appropriateness of repeat prescription requests submitted by community pharmacies in Bristol. The CCG provided practices with the criteria for 'inappropriate' to aid their decision-making. Completed audit forms for returned to Bristol CCG for analysis.

Summary of results

94.4% (51) of Bristol CCG GP practices participated in the audit and reviewed prescription requests from 96.9% (94) of Bristol CCG community pharmacies. Prescription requests for 1,010 patients were audited during the audit period. A total of 3,693 medicines were requested and 15.9% (587) of these were recorded as being 'inappropriate'. Some requests were inappropriate for more than one reason; a total of 598 reasons for inappropriate request were recorded:

% of total responses	Reasons given
66.1% (395)	Requested too soon/over ordered
10.0% (60)	Previously stopped
6.4% (38)	Only intended for acute use
4.4% (26)	Wrong dose/strength requested
1.8% (11)	Patient in hospital
1.2% (7)	Patient doesn't want
0.8% (5)	Not prescribed for patient
0.5% (3)	Wrong medicine requested
0.3% (2)	Patient deceased
8.5% (51)	Not stated/other
<i>Total 598 responses</i>	

The percentage of inappropriate prescription requesting varied across pharmacies, as demonstrated below:

	'Big chain' pharmacies (P)				'Small chain' pharmacies	Independent pharmacies	Supermarket pharmacies
	'P1'	'P2'	'P3'	'P4'			
No. of patients	221	14	299	98	40	308	30
No. of medicines requested	683	66	1146	388	170	1101	139
No. of medicines requested <i>inappropriately</i>	161	14	193	32	16	152	19
Rate of inappropriacy	23.6%	21.2%	16.8%	8.2%	9.4%	13.8%	13.7%

20.5% (207) of the patients audited normally have their medicines dispensed in a MCA.

Comments given by GP practices included:

- *"Duplicate prescription request – I've already done this"*
- *"Pharmacist has ordered the medicines two months too early"*
- *"Medicines ordered 1 month too early"*
- *"Ordered dihydrocodeine tablets for a pregnant woman and this medicine was discontinued seven months ago"*
- *"Medication has not been taken by the patient in the last 10 months"*
- *"Two months' supply is being requested every month"*
- *"Previously discontinued medicines were ordered – prescriptions have been generated and medicines restarted in error"*
- *"Piroxicam gel requested despite it being changed to ketoprofen gel a year and three months ago"*

- *“Requesting two salbutamol inhalers for this patient every month, but the patient does not have a respiratory condition”*
- *“Requesting monthly prescriptions every week for this dosette box patient”*
- *“Medicines ordered for this patient but some medicines were missed off and not ordered when they should have been”*
- *“This medication was ordered but this patient is not even registered at our practice”*
- *“This amoxicillin was only intended for acute use”*
- *“This pharmacy is using dispensing labels stuck on a blank sheet of paper to order the prescriptions. Should they be ordering them?”*

Appendix 2

'Study 'B' – Summary of Patient Medicines Ordering Survey

Overview

A 'Patient Medicines Ordering Survey' was completed by patients during Quarter 4 of financial year 2014-15. The survey measured:

1. How patients order their repeat prescriptions and manage their medicines at home
2. Patient self-reported concordance with medicines
3. Patient perceived access to medicines-related information and support

Aims

- To investigate the reasons behind inappropriate prescription ordering
- To identify communication gaps between patients, community pharmacies and GP practices
- To identify training needs with regards to repeat prescription ordering
- To identify further support that could be offered to patients from community pharmacies and GP practices
- To help identify potential strategies for reducing medicines waste

Method

Patients completed a 'Patient Medicines Ordering Survey' either in the GP practice waiting room or online at Bristol City Council's Consultation Hub website. Completed surveys were sent to Bristol CCG for analysis.

Summary of results

1,487 surveys were completed by patients registered at 94.4% (51) of GP practices in the Bristol CCG area. 123 community pharmacies and DACs were represented in the audit. Completed surveys were returned to Bristol CCG for analysis.

Questions asked:

1. How do you usually order your repeat prescriptions?

91% (1,354) of patients use one method for ordering their prescription medicines and 7.9% (117) use more than one method. 1.1% (16) did not answer the question. 1,471 respondents stated the following:

% of patients	% of methods	Method
60.9% (896)	56.2%	In person at/by post to GP practice
20.8% (306)	19.2%	Community pharmacy orders prescriptions
15.6% (230)	14.4%	EMIS Patient Access System
10.2% (150)	9.4%	Telephone to GP practice/community pharmacy/DAC
0.7% (11)	0.7%	Other (e.g. fax to surgery)
Total 1,471 patients/1,593 methods		

2. Do you order all of the medicines you are prescribed with each repeat prescription request?

Table 8: Patients ordering all medicines each time	
% of patients	Response
40.1% (596)	Yes
37.9% (563)	No
20.6% (306)	Sometimes
1.5% (22)	Not answered
<i>Total 1,487 patients</i>	

3. Why do you re-order every item on your repeat prescription list?

Only patients who replied 'yes' or 'sometimes' in Question 2 were asked to complete this question. 92.7% (836) of eligible patients answered this question. Some patients ticked more than one reason:

Table 9: Reasons for ordering every item		
% of patients	% of reasons	Reason
88.8% (742)	78.1%	I need every item
6.9% (58)	6.1%	Out of routine
6.9% (58)	6.1%	It's easier just to ask for everything
4.4% (37)	3.9%	I don't want a GP appointment
1.7% (14)	1.5%	To keep my doctor happy
1.4% (12)	1.3%	I don't understand the system
1.3% (11)	1.2%	I worry that my doctor will stop the medicine if I don't
2.2% (18)	1.9%	Other
<i>Total 836 patients/950 reasons</i>		

4. Do you ever receive prescriptions for medicines that you haven't requested?

Table 10: Patients receiving medicines they have not requested	
% of patients	Response
89.1% (1,325)	No
5.2% (77)	Sometimes
4.0% (60)	Yes
1.7% (25)	Not answered
<i>Total 1,487 patients</i>	

5. Do you currently have an excess amount of one or more of your prescription medicines at home?

Table 11: Patients having excess medicines at home	
% of patients	Response
83.4% (1,240)	No
14.9% (222)	Yes
1.7% (25)	Not answered
<i>Total 1,487 patients</i>	

6. Do you take all of your medicines exactly as instructed by your doctor?

Table 12: Patients taking all medicines as instructed	
% of patients	Response
90.7% (1,348)	Yes
6.1% (90)	Some of them
2.0% (30)	No
1.3% (19)	Not answered
<i>Total 1,487 patients</i>	

7. Were you aware that once medicine has left a pharmacy it cannot be recycled or used by anyone else, even if unopened?

Table 13: Patient awareness of medication non-recycling	
% of patients	Response
83.4% (1,240)	Yes
14.9% (221)	No
1.7% (26)	Not answered
<i>Total 1,487 patients</i>	

8. Has your doctor or pharmacist ever explained to you why you are prescribed each of your medicines?

Table 14: Patient received reason for medicines	
% of patients	Response
88.6% (1,318)	Yes
6.4% (95)	Only for some medicines
3.6% (53)	No
1.4% (21)	Not answered
<i>Total 1,487 patients</i>	

9. Are you offered regular health checks by your local doctor's surgery to discuss your prescribed medication (regular may be yearly or 6-monthly)?

Table 15: Patient offered regular health checks	
% of patients	Response
75.7% (1,126)	Yes
22.1% (329)	No
0.3% (5)	Not sure
1.8% (27)	Not answered
Total 1,487 patients	

10. Does your usual pharmacy ever offer you a medicines review to discuss your medicines?

Table 16: Patient offered medicines review	
% of patients	Response
57.4% (853)	No
40.4% (601)	Yes
2.2% (33)	Not answered
Total 1,487 patients	

Rate of unwanted medicines

The number of patients who received unwanted prescription medicines when the community pharmacy requested their prescription was found to be almost double than that of patients who requested their own prescriptions:

Table 17: The receipt of unwanted prescriptions		
	Pharmacy orders all prescriptions	Pharmacy does not order any prescriptions
Number of patients	260	1,054
Number of patients receiving unwanted medicines at least sometimes	14.2% (37)	7.5% (79)

Patients wrote the following comments on the survey form:

- *"Sometimes you have to try several medicines before you find one that works and this means that some gets wasted"*
- *"I have asked for co-careldopa tablets on my repeat prescription but I have received a prescription for the wrong strength"*
- *"My husband was prescribed morphine injections instead of tablets"*
- *"I was dispensed ordinary morphine tablets but I was supposed to have long release ones"*
- *"I have previously been dispensed my mother's medication instead of mine by mistake"*

- *“I used to receive all my creams and needles with every prescription so I told the chemist that I don’t need them every time. After complaining he now phones me each time to check what I need before he orders it”*
- *“Medicine reviews are a waste of everybody’s time”*
- *“I would appreciate having a medicines check with someone as I would like more information about my medicines. I only ever receive information in its barest terms”*
- *“My pharmacy refuses to take my unwanted medicines but I don’t know why so I don’t know what to do with them”*

Appendix 3

'Study 'C' – Summary of Prescription Service Survey

Overview

Patient's views were sought on how they obtain their stoma products and what they think about the current service they receive from their GP practice and appliance dispenser (DAC or community pharmacy).

Aims

- To seek patient views on the root causes of medicines waste
- To explore the scale of waste attributed to stoma appliances and accessories
- To identify opportunities for Bristol CCG to better support stoma patients
- To investigate patient satisfaction with the service offered by their GP practice or DAC

Method

The views of patients were sought between April 2015 and August 2015 using the following methods:

1. A 'Prescription Service Survey' was developed (online and paper) and disseminated for stoma patients to complete. This explored patients' views on how their stoma products are ordered and supplied to them and their opinions on how the current system could be improved.
2. Visits to supported and extra care housing units to discuss medicines waste with patients.
3. E-mail and telephone correspondence with patients.
4. Feedback given on the 'Patient Medicines Ordering Survey' forms that were completed by stoma patients during Study 'B'.

Summary of results

Feedback from a total of 276 stoma patients was included in the analysis. Note: although the online 'Prescription Service Survey' was aimed at Bristol CCG patients, due to the method of dissemination and restrictions on the number of questions that could be asked, it is possible that some respondents live within North Somerset CCG and South Gloucestershire CCG catchment areas.

Questions asked/areas investigated:

1. Appliance/accessory wastage

- a) *Who requests the stoma product prescriptions from the doctor's surgery for stoma patients?*

% of patients	Requester
28.3% (78)	Patient
68.8% (190)	A dispensing appliance company
2.9% (8)	A friend, carer or relative
<i>Total 276 patients</i>	

b) Who dispenses the stoma appliance prescriptions?

Table 19: Dispenser of stoma appliance prescriptions	
% of patients	Dispenser
69.2% (191)	A dispensing appliance company
30.8% (85)	The community pharmacist (chemist)
Total 276 patients	

Additional comments from patients:

- *“My local chemist would only use a wholesaler who had limited products so was very unreliable”*
- *“It’s much easier getting my products delivered by the company”*
- *“I didn’t realise my pharmacist could dispense my supplies. I thought it was just tablets”*
- *“It’s better when [company name] dispenses my prescriptions because I get sent information on new products to try”*

c) How many patients have an excess stock of stoma products at home that they do not need/are not using?

Table 20: Patients having excess stock	
% of patients	Response
25.4% (70)	No
74.6% (206)	Yes
Total 276 patients	

Additional comments from patients:

- *“I have started buying 2 months at a time, to get 30 [product 1] and 30 [product 2] as I alternate. The [product 1] makes me sore if I wear it for too long and the [ostomy product 2] I have to cut down and this is fiddly to do and messy to empty, but the adhesive is very skin friendly. I have a low profile stoma which leaks so change daily!”*
- *“I try not to over order. I fully review my needs and make my order for the items that I require only. I don’t just do a repeat order”*
- *“Either free samples or products no longer suitable e.g. convex appliances”*
- *“Problems with your stoma vary and you need to keep a range of items to deal with every eventuality”*
- *“Yes, because there can be no room for an interruption in the obtaining of replacement stock”*
- *“I always ask for plenty because I’d rather have too much than not enough”*
- *“I usually keep a box of bags and when it goes down to about 1-dozen bags left then I re-order, same with the [ostomy product]”*
- *“I do have some old samples and some rejects....it’s my emergency back-up....you never know when your skin may react badly to your usual things”*
- *“I do get sent a lot of products when my prescription is delivered but I think it’s good to keep a good supply in stock in case [company name] runs out”*

d) What do patients do with excess stoma products that they do not want/need?

Table 21: What happens to excess stoma products	
% of patients	Response
7.8% (16)	Throw them away in the dustbin
8.2% (17)	Throw them away in the recycling bin
84.0% (173)	Donate to a charity to send abroad
Total 206 patients	

(It was noted that some of the above patients may actually keep some of their unwanted stoma products in cupboards at home rather than dispose of or recycle all of them).

Additional comments from patients:

- *“These are usually free samples from different companies at stoma open days. I try what is new and if I don't like it, give it away. The Jacob's Well Appeal send stuff to Eastern Europe and Africa”*
- *“This is very rare and only applies to samples that prove to be inappropriate”*
- *“I take them back to the hospital for the stoma nurses otherwise”*
- *“My local support group collects them at their meetings and then sends them to one of the groups that arrange distribution abroad”*
- *“I used to throw in dustbin. I now give them to special charities for use in the undeveloped world”*
- *“In 6 years, the only occasion was when I had further surgery which changed the shape of my stoma and I had to have a different product”*
- *“Have on occasions brought them along to the Ileostomy Association meetings for distribution abroad, but the amount is negligible. Unfortunately because of ill health I haven't been to the meetings recently”*
- *“I have donated surplus bags and flanges - when I have had to change my prescription - via my local stoma nurse. Other products received via Ileostomy Association Journal (wipes etc) are binned”*
- *“If I can help the charities by sending some supplies then I like to do this”*
- *“Most unused samples I will donate via Avon Ileostomy Association for shipment to a charity collecting surplus supplies for countries that do not enjoy the standards of healthcare provision that we do. There are times when I receive a faulty batch of bags. In the past, I have returned these to the supplier. Unfortunately, with a previous supplier, their customer 'care' standards were abysmal, so I did dispose of the faulty batch in the dustbin. I have since changed supplier and so far have had no problems”*

2. Quality of service

e) *How often do patients contact their doctor's surgery because of problems with their stoma prescriptions?*

Table 22: How often patients contact the surgery	
% of patients	Response
3.8% (9)	Often
7.6% (18)	Sometimes
44.7% (106)	Rarely
43.9% (104)	Never
Total 237 patients	

Additional comments from patients:

- *"I have ongoing issues, especially if products are changed or requirements increase or decrease, very frustrating!"*
- *"Never had any problems since the start of electronic prescriptions. The manual system had so many links and was too vulnerable to human error"*
- *"My surgery just gives me what I ask for"*
- *"Sometimes there are delays getting my prescription from the surgery which then means there are delays getting my bags delivered. I always ordered early now"*

f) *How well do patients think their GP understands their needs as a stoma patient?*

Table 23: Patient perception of GP understanding	
% of patients	Response
13.1% (31)	Totally
18.1% (43)	Well
44.7% (106)	Neutral
13.9% (33)	Not much
10.1% (24)	Not at all
Total 237 patients	

Additional comments from patients:

- *"He [my GP] is happy to supply what I ask for. I looked on the PPA [Prescription Pricing Authority] web site at the costs and showed him that I was ordering the cheapest of each thing"*
- *"My GP has previously advised me to refer to the stoma nurse as they understand requirements better"*
- *"I'm never asked any questions about how I am managing my stoma at any of my visits, but that could be because I have never had a problem with it so the subject has never come up"*
- *"My doctor is happy to go with anything my stoma nurse recommends"*
- *"To be honest I don't expect them to. I have an annual review with my community stoma nurse who checks the continuing suitability of the products I use. I think that"*

community service should be well enough resourced to do that countrywide. If nothing else, I would make such a review compulsory for anybody using more than 180 bags a year - partly on cost grounds but also on the basis that those patients could well have serious problems”

- *“My GP does not see the number of affected people like a specialist would”*
- *“I have never had need to speak with my GP regarding my stoma”*
- *“Currently, as I have had my ileostomy for 64-years, I presume that she [my GP] thinks I know more about it than her! Wasn't my doctor when I went through all the hospitalisation but I did have an absolutely fantastic physician who saw me through all the phases of pre-op and post operations, kept in touch with me until he died approximately 4 years ago. I owe him my life and total gratitude for his care.*
- *“But I have just changed doctors so not sure about the new one yet”*
- *“Whilst having a limited knowledge of stoma-related issues, they do listen if I have any concerns”*
- *“Unless my GP has a stoma I can't see how they can understand really”*

g) How do patients rate the service they receive from the pharmacy/DAC that dispenses their stoma prescriptions?

Table 24: Patient rating of dispenser service	
% of patients	Response
62.0% (147)	Excellent
30.8% (73)	Good
7.2% (17)	Neutral
Total 237 patients	

Additional comments from patients:

- *“Think they are a bit big and you never speak to the same person twice so it is not very personal. They can make mistakes - like I got someone else's order in with mine once!”*
- *“[Company name] are superbly efficient and respond to email requests very quickly”*
- *“Since changes in the system within the last 24 months, it can now take up to 10 working days from placing order to receiving appliances, rather than the next day delivery service previously enjoyed”*
- *“The supplier has great experience of the needs and problems that can arise and the knowledge and contacts to suggest ways to help in the event of difficulty”*
- *“Have been dealing with [company name] for years, even when living abroad. Always reliable”*
- *“I don't think the pharmacist really understands about my stoma appliances but I do get what I need”*

h) How often do patients receive free samples of stoma-related products to try?

Table 25: Frequency of free sample receipt	
% of patients	Response
35.0% (83)	Every 3 months
11.8% (28)	Every 6 months
49.8% (118)	Rarely
3.4% (8)	Never
Total 237 patients	

Additional comments from patients:

- *“These come with the Ileostomy Association newsletter; also when attending BOSS [Bristol Ostomists Self Support Group] meetings”*
- *“Only when I request them”*
- *“They come with Ileostomy Association Journal [3 patients]”*
- *“Mostly I receive free samples after I have attended an open day”*
- *“Only when I request them from a company. My prescription says “no free samples”*
- *“I get samples with the Ileostomy Association quarterly journal and there are always lots of samples at stoma events. For example, the Bath Royal United stoma event at Bath Racecourse 2 weeks ago. All the companies will always provide samples on request”*
- *“Only if I request them which is the best way to avoid waste”*
- *“Received a new appliance to the range recently but wasn't impressed, the outlet was very ill designed and messy. Find the Ileostomy Association magazine helpful in promoting new products. As I find the current appliance I use generally satisfactory, am a bit nervous about trying out new products”*
- *“At the moment rarely as it's going well with what I use”*
- *“I'm satisfied with the products I use, but if I see an alternative at an open day or Ileostomy Association members meeting I will try it”*

i) Do patients think the specialist stoma nurses know more about their stoma products than their GP?

Table 26: Patient perception of stoma nurse knowledge	
% of patients	Response
88.2% (209)	Yes
11.8% (28)	Not sure
Total 237 patients	

Additional comments from patients:

- *“Everyone leaves everything up to the stoma nurses, which is a problem if something goes wrong at the weekend”*
- *“I haven't visited either my GP, regarding my stoma, or my local stoma nurses for quite some time. I'd like to think that they are both very knowledgeable about my stoma products”*

- *“The best ones possibly know more about stomas more than my GP but he's pretty good!”*
- *“Stoma nurses are excellent and easily contactable”*
- *“Stoma nurses are experts and attend specialist courses run by the Ileostomy Association and other organisations. GPs have to be good at everything and most have only limited knowledge and understanding of stoma products and stoma problems”*
- *“Recently was in hospital for a kidney complaint. The stoma nurse came along to see me and was most helpful and re-assessed measurement of my ileostomy and gave me some good up to date advice”*
- *“Definitely. Doctors are not specialists at this”*
- *“I have rarely seen a stoma nurse, not for the last ten years anyway”*
- *“I have never discussed my stoma products with my GP. She takes my word about what I need. As I usually wear each flange for a week, and two bags per flange, I only order new supplies about 3-4 times per year so my stoma prescription costs are low. Maybe if they were high my GP would show more interest. However, I am concerned that with many stoma care departments being sponsored by a manufacturer, they will be more inclined to prescribe their manufacturer's products rather than looking at what is best for the patient”*

j) How would patients improve the current service?

Comments received (32 patients):

- *“Get the stoma nurses to replace the GP in the process”*
- *“Get them through a stoma nurse or a specialist not a GP who often has little or poor knowledge of stoma related issues”*
- *“Current system is ok for me [8 patients]”*
- *“I would have liked to support my local chemist but as they were not prepared to improve their service this is impracticable”*
- *“Revert back to the old system whereby you could order your products and receive them the next day and then the prescription was requested afterwards”*
- *“Specialist companies offer a better service, but I like to support the village chemist”*
- *“Allow a quicker turnaround from ordering to receipt”*
- *“Provide an address of somewhere to send my unwanted products to”*
- *“The stoma company informing me that they had received my prescription request and were preparing it to send”*
- *“I think that we should be made aware of the cost, to the NHS, of our items. This may make 'us' consider our order when we renew”*
- *“Have a selection of extra items to look at e.g. wafers, support belts etc. in local chemist or local GP surgery”*
- *“Bring back the stores we used to be able to pop into to get our supplies”*
- *“Go back to the simpler method before the recent change”*
- *“The current system works very well and difficult to improve. In the past the suppliers used to send out within 24 hours, they now delay until they receive the script from the GP, it delays orders by between 7-10 days. In view of this problem and the delays you tend to order earlier to ensure you do not run out”*
- *“I phone the appliance company who then get the prescription electronically. I cannot use the GP electronic re-ordering service because that only offers local chemists as a delivery option and I cannot input my appliance supplier”*

- *“I have used the same company to deliver products for over 15 years and am quite happy with the arrangement”*
- *“Revert back to the next day delivery service”*
- *“Quicker turnaround time from prescription to delivery”*
- *“Can we have a better system by getting our prescriptions written by someone that understands our product needs?”*
- *“I order from my appliance company and they contact GP for prescription before dispensing and sending. Process takes 7 days to receive items. As service is reliable I order on a 'just in time' basis - usually once a month. I only order what I need and amend requirements as necessary”*
- *“Prescriptions take two weeks because the suppliers report to the doctors for approval. In this day and age an e-mail would get approval in minutes; so next day delivery could be the normal procedure. Two weeks is a joke!”*
- *“Let dispensing companies issue prescriptions”*
- *“Find the current situation quite acceptable, prompt, and caring; they phone me monthly to see if I want any bags etc. Once tried the chemist but it caused so many hiccups, problems and incorrect products would never place an order there again”*
- *“Online ordering”*
- *“Stoma bags are an essential item. We have no means of 'controlling' the output of bodily wastes, so these are collected in the bags. With my last experience with faulty bags, I was unable to get a new prescription fulfilled for three working days. I was therefore unable to go out, go to work etc. I would like to see either dispensers holding a 'buffer' stock for immediate dispensing or an 'express' system of prescription”*

Appendix 4

‘Study ‘D’ – Summary of Medicines Feedback Questionnaire

Overview

A ‘Medicines Feedback Questionnaire’ was completed by patients during Quarter 1 and 2 of financial year 2015-16. The questionnaire investigated the number of patients who are not taking all of their prescription medicines as prescribed and the reasons for this.

Aims

- To explore the scale of and reasons for medication non-concordance across Bristol
- To identify patients who would benefit from further support with their medication from GP practice staff or community pharmacies
- To improve patient concordance with medicines
- To reduce unnecessary polypharmacy and medicines waste

Method

Patients completed a ‘Medicines Feedback Questionnaire’ either in the GP practice waiting room or over the telephone to a practice pharmacist. Pharmacists recorded the outcomes on an audit form and submitted this to Bristol CCG for analysis.

Summary of results

809 patients completed the questionnaire across 43 GP practices. 62.9% of patients (509) reported that they are currently prescribed medicines they are not actually taking. Patients reported non-concordance with a total of 793 prescription medicines, giving 925 reasons (some patients gave more than one reason). The reasons for non-concordance were:

% of patients (509)	% of reasons (925)	Reason
36.1% (184)	19.9%	Forget to take
25.3% (129)	13.9%	Side-effects
24.0% (122)	13.2%	Concerns/beliefs around medicines
18.1% (92)	9.9%	No symptoms
12.2% (62)	6.7%	Doesn’t feel medicines work
9.4% (48)	5.2%	Infrequent/seasonal symptoms
9.2% (47)	5.1%	Symptoms only mild
8.4% (43)	4.6%	Not enough information
7.5% (38)	4.1%	Hard to swallow/use
5.1% (26)	2.8%	Ordering problems
4.5% (23)	2.5%	Meds previously stopped by hospital
3.1% (16)	1.7%	Patient noticed dispensing/prescribing error
2.8% (14)	1.5%	Confused about medicines regime
1.0% (5)	0.5%	Pays for scripts
0.8% (4)	0.4%	Allergic
0.8% (4)	0.4%	Can’t open container
0.4% (2)	0.2%	Using wrong dose
0.2% (1)	0.1%	Over prescribed by GP
12.8% (65)	7.0%	Other/reason not given

Practice pharmacists categorised non-concordant medicines into therapeutic areas based on BNF chapters:

Table 28: Therapeutic areas of non-concordant medicines	
% of non-concordant medicines	BNF Chapter
22.0% (174)	2: Cardiovascular System
18.0% (140)	9: Nutrition and Blood
13.0% (105)	4: Central Nervous System
12.0% (92)	3: Respiratory System
11.0% (90)	6: Endocrine System
8.6% (68)	1: Gastro–Intestinal System
3.7% (29)	11: Eye
3.4% (27)	13: Skin
3.3% (26)	10: Musculoskeletal and Joint Diseases
2.5% (20)	7: Obstetrics, Gynaecology and Urinary-tract Disorders
2.1% (17)	5: Infections
0.4% (3)	12: Ear, Nose and Oropharynx
0.3% (2)	8: Malignant Disease and Immunosuppression
<i>Total 793 medicines</i>	

Appendix 5

'Study 'E' – Summary of Patient Views

Overview

Using a variety of methods, patient's views were sought on the prescribing of medicines, their beliefs around medicines and their views on the root causes of medicines waste.

Aims

- To seek patient views on the root causes of medicines waste
- To explore the scale of medication non-concordance across Bristol
- To identify barriers to complete concordance with medicines
- To identify opportunities for Bristol CCG to better support patients with their medicines

Method

The views of patients were sought between November 2014 and June 2015 using the following methods:

- Visits to patients' homes, retirement homes, supported housing units and extra care housing units
- Group discussions with patients
- 1:1 discussions with patients
- E-mail correspondence
- Telephone correspondence

Summary of feedback received

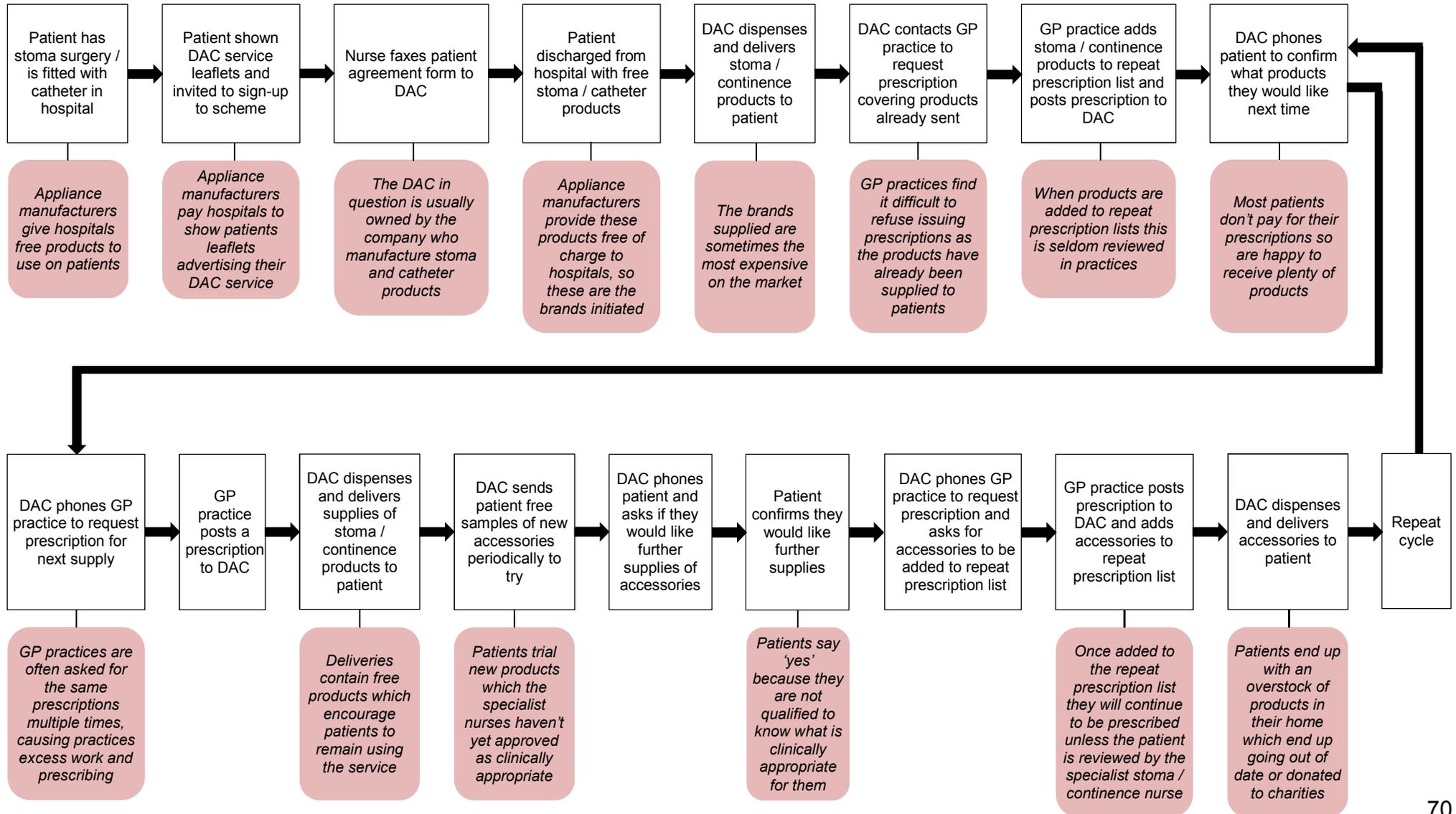
1,202 patients gave their views on the root causes of medicines waste. The main cause was reported as being overprescribing by their GP. Patients felt that GPs are too quick to prescribe medicines when they instead would just prefer advice on non-pharmacological interventions, such as dietary advice, chiropractors, walking groups, counsellors and talking therapies.

Patients stated they prefer not to take medicines because they have to remember to take them and they worry about side-effects. Nearly all patients commented that they do not receive enough information about their medicines from their GP or pharmacist - especially when medicines are newly initiated - which reduces their concordance with their medicines. Patients stated that having a better understanding of the risks and benefits of new medicines would increase their concordance. Patients also reported not receiving enough information from hospital staff when new medicines are initiated in hospital.

Many patients reported feeling uneasy about changes to their medication, with the view that generic medicines and more cost-effective medicines must contain lower amounts of drug, be lower in efficacy, or carry a higher risk of side-effects.

Appendix 6

Current process for the supply of continence and stoma appliances across Bristol



Appendix 7

Proposed pharmacy technician-led Medicines Support Service in Bristol

