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Pharmaceutical waste reduction in the NHS

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Foreword

This report has been sponsored by NHS England. Pharmaceutical waste is a universally accepted problem within the NHS, whilst there are a number of local initiatives attempting to tackle the issue, there are no national programmes in existence. This report seeks to highlight best practice from these local initiatives with the purpose of encouraging others to introduce similar initiatives where appropriate.

Commissioned by NHS England

Contents

Contents.....	5
1 Executive Summary	6
2 Introduction	7
3 Case Studies.....	11
4 Information Governance.....	23
5 Conclusion	23

1. Executive Summary

It has been estimated £300 million of NHS prescribed medicines are wasted each year. This paper highlights the issue of pharmaceutical waste in the UK, and outlines the difficulty in measuring and quantifying types and volumes of waste. The report also looks at definitions and causes of waste.

This paper does not look to analyse the way in which medicines may be used to greatest physiological effect, rather, it references a number of external publications, and using research carried out by local bodies and draws conclusions relating to the root causes of pharmaceutical waste. This paper concludes that waste is a by-product of the “business as usual” activities of the NHS and that a culture change is required to address this on-going issue. This paper compiles pharmaceutical waste reduction best practice which has been carried out at a local level. Included, are successful examples of projects which have both improved patient outcomes, and optimised medicines dispensed. In addition, many have successfully reduced costs as an added benefit.

Using the Case Studies, there are a number of opportunities identified that could assist in the reduction of therapeutic and material waste throughout the UK through focus on prescribing and dispensing methods, as well as targeting particular patient and drug types. It is acknowledged that throughout the case studies, successful initiatives were found to be focused on both patient outcomes and reduction of spend as mutually beneficial goals. The initiatives included strategies such as deprescribing, polypharmacy monitoring, and medicines optimisation via intervention and consultation. The table below is a high level summary of the case studies detailed in this paper:

CCG	Scheme	Description	Benefits	Savings (where known)
East Staffordshire	What a Waste	- <i>Patient Centred Medication Optimisation Clinics</i>	- Improved Patient Adherence - Identify Medicine Wastage - Prevention Strategies	- Benefits not fully captured
Nene	CHAPs	- <i>Medicines optimisation using Pharmacist led interventions for Care Home residents</i>	- Medicines optimisation - Reduced Medicine Wastage - Improved Prescribing Quality	- Achieved £122 per patient per annum - Potential to save over £40m per annum if scaled nationally
Northumberland	SHINE	- <i>Medicines optimisation using Pharmacist led interventions for Care Home residents</i>	- Medicines optimisation - Reduced Medicine Wastage - Improved Prescribing Quality	- Achieved £184 per patient per annum - Potential to save over £60m per annum if scaled nationally
Northumberland	Care Home Medication Review Pilot	- <i>Medicines optimisation using Pharmacist led interventions for Care Home residents</i>	- Medicines optimisation - Reduced Medicine Wastage - Improved Prescribing Quality	- Achieved £150 per patient per annum - Potential to save over £50m per annum if scaled nationally
Ipswich/East Suffolk	SIP Feeds	- <i>Implementation of tighter controls to the prescribing, dispensing & administration of SIP Feeds</i>	- Improved Patient Outcomes - Reduced Prescribing Costs	- Achieved 23% reduction in SIP feed spend - Potential to save £35M if scaled nationally
Sheffield	Bulk Prescribing	- <i>Management & Control of PRN medicines within Care Homes through the introduction of Bulk Prescribing</i>	- Reduced Prescribing Costs - Reduced Medicine Wastage	- Benefits not fully captured
Walsall	RPMS	- <i>Pharmacist led interventions, managing repeat prescriptions within GP Practices</i>	- Medicines optimisation - Reduced Medicine Wastage - Improved Prescribing Quality	- Achieved £3.05 saved for every £1 invested - Potential to save over £100m per annum if scaled nationally

Ultimately this paper concludes with guidance on the best practice when attempting to reduce waste. It concludes on common themes for this best practice being:

- **Support** at point of prescribing

- **Control** of medicine optimisation
- **Benefits** must be traceable/measureable
- **Governance & Knowledge** - *interventions and focus from competent and knowledgeable people with the skills to optimise medicines*
- **Communication** - *communicate effectively both internally to create an efficient team, but also with external stakeholders.*

2. Introduction

What is waste?

Within the NHS, many activities and outputs are considered “waste” or “wasteful”. Such activities include missed appointments, wasted GP time, unnecessary hospital visits and pharmaceutical waste. This report focuses solely on pharmaceutical waste reduction projects, and compiles recent examples of best practice in reducing pharmaceutical wastage into a high level summary.

A simple definition of waste would be:

“Any substance or object the holder discards, intends to discard or is required to discard” is waste.

This paper also considers therapeutic waste, and reflects on the impact of its reduction. It is acknowledged that by reviewing medication regularly to ensure clinical requirements are unchanged, pharmaceutical waste is significantly reduced. It should be noted that while this report does not directly address the relationship between patient and their medication, it is to be acknowledged that this link is crucial in ensuring the best possible therapeutic outcomes.

What is the current state of waste?

The extract below illustrates the scale of pharmaceutical spend and provides some context to potential pharmaceutical waste figures:

“The cost of medicines in England in 2013 exceeded £15 billion, including costs in hospitals. In 2013, over 1 billion prescription items were dispensed in the community in England. This is an average of 2.7 million items every day...On average, 18.7 prescription items were dispensed per head of population in England in 2013.”¹

The 2010 report *Evaluation of the Scale, Causes and Costs of Waste Medicines* produced by *York Health Economics Consortium and School of Pharmacy University of London* estimated the national figure of pharmaceutical waste to be £300 million. To put this figure into some context, the report highlights:

¹ Health and Social Care Information Centre. Prescriptions Dispensed in the Community, England 2003-13. HSCIC, Leeds, 2014. www.hscic.gov.uk/catalogue/PUB14414/pres-disp-com-eng-2003-13-rep.pdf

"This sum represents approximately £1 in every £25 spent on primary care and community pharmaceutical and allied products use, and 0.3 per cent of total NHS outlays. It includes an estimated £90 million worth of unused prescription medicines that are retained in individuals' homes at any one time, £110 million returned to community pharmacies over the course of a year, and £50 million worth of NHS supplied medicines that are disposed of unused by care homes.²

While this baseline was produced in 2010 the authors behind the £300 million figure still believe it to be relevant today. With the methodology for estimation being sound and the lack of sustained waste intervention since its measurement this belief seems to be valid. The only major change that would have had some impact is the increase in prescription volumes. This increase was approximately 11% between 2010 and 2014. While this report will not speculate on the exact effect this rise has had on the overall waste figure, it is a fair assumption that this would have increased the overall cost of waste in this period.

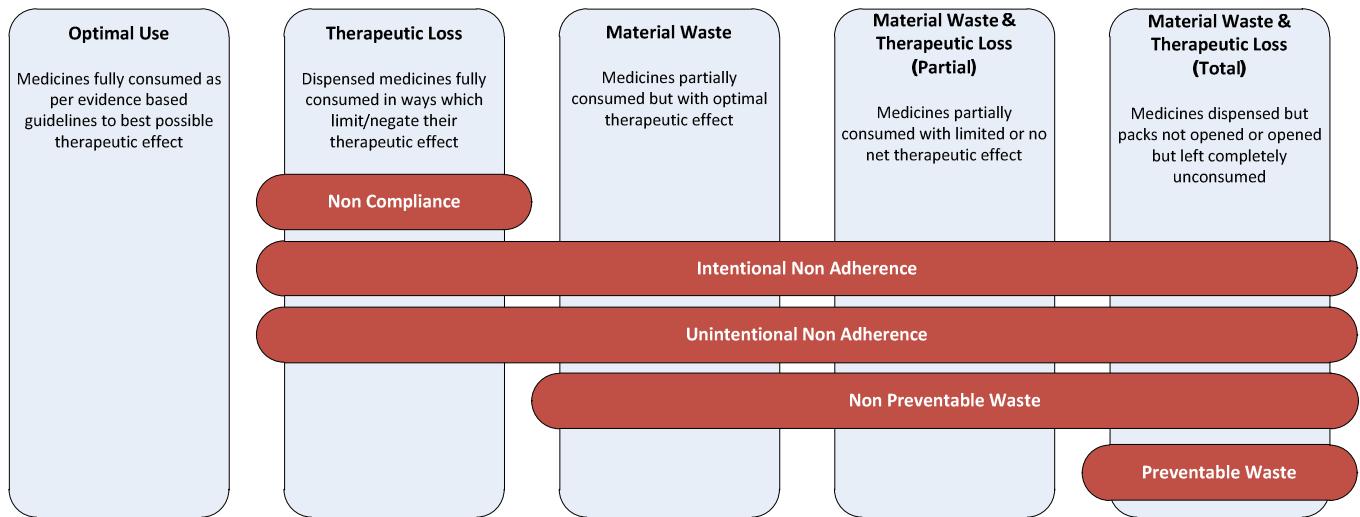
² Executive Summary; Evaluation of the Scale, Causes and Costs of Waste Medicines. York Health Economics Consortium and School of Pharmacy University of London. 2010

What types of waste exist?

Pharmaceutical waste can be split up into five types:

- **Non Compliance** – patient does not take medicines as prescribed. For example, taking at irregular intervals or in incorrect doses.
- **Intentional Non Adherence** – patient stops taking medication due to adverse side-effects or personal beliefs.
- **Unintentional Non Adherence** – patient stops taking medicine, or fails to take at correct intervals due to forgetfulness.
- **Non-Preventable Waste** – patient dies and unused medicines are wasted, or a change in treatment means current dispensed medicines are no longer required.
- **Preventable Waste** – patient stock piles medicines “just in case”. All items from repeat prescription are dispensed even if patient no longer takes the medicine.

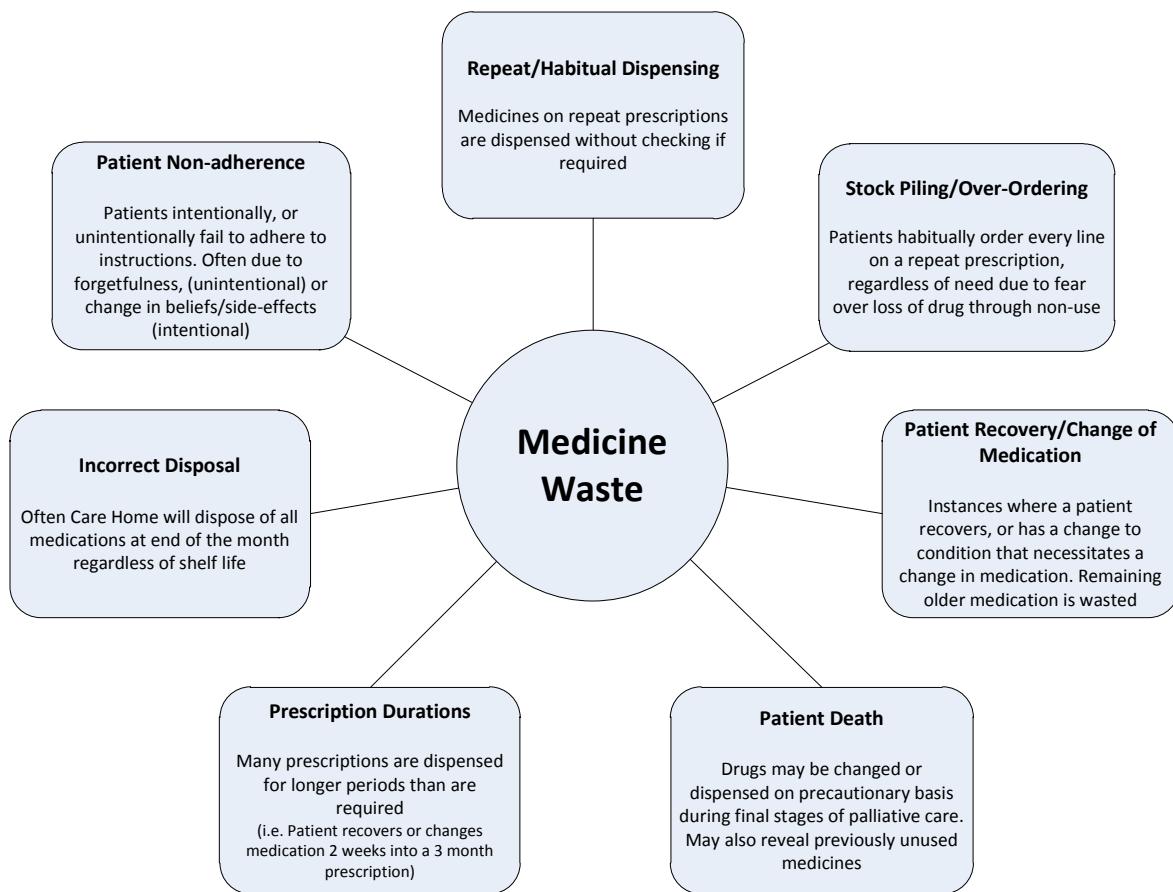
The following diagram illustrates the many different outcomes that can occur if a patient does not take medicines as prescribed:



The diagram illustrates that all of the five waste types will fall into either Therapeutic Loss and/or Material Waste. Therapeutic Loss occurs where the effects of the medicines are reduced or negated by the user's failure to take them as prescribed. Material Waste occurs where the medicines are physically unused and either disposed of, returned to the pharmacy, or stock piled in the patient's home. Non Compliance for example can lead only to therapeutic loss as the medicines are all taken, but not in the manner in which they are prescribed.

What are the causes of waste?

The causes of waste vary from inefficient prescribing and stock piling to patient recovery and non-adherence. Pharmaceutical waste can occur at any stage from the point of prescribing to the taking/not taking of medicines by the patient, and can occur through failures in existing processes or patient behaviours. The causes of waste are summarised in the diagram below:



It is clear when reviewing the causes and types of pharmaceutical waste that prescriber, dispenser and patient all play a part in waste creation. One of the major concerns from this waste being created is that patients may not be experiencing the intended outcomes of their prescribed treatment. As covered previously this can be due to either the patient not taking treatment as directed or by their situations not being reviewed regularly enough to ensure their prescription meets their evolving treatment needs. It is this concern for patient outcomes that is of primary concern to NHS England. Focus needs to be put on both personalising patient's experience, but also avoiding the unnecessary demand that not optimising this experience can put on the NHS system. It is for this reason that highlighting best practice in waste reduction is important, and that the outcomes be replicated wherever possible.

3. Case studies

All of the initiatives outlined in the following section have a common theme – improving patient outcomes. Each scheme seeks to optimise medicines prescribed and dispensed to patients to ensure that:

- Patients receive help to know how to use medicines, and why they have been prescribed to optimise their use
- Problems, side-effects and solutions are identified
- Medicine adherence is improved – leading to improved health outcomes
- Habits are changed – the culture of over-ordering and stock-piling is removed through education

These initiatives assist in ensuring that each patient receives **the right medicine, at the right dosage, at the right time**. Whilst each initiative has a positive financial outcome, this is seen as a secondary benefit, with the key focus being on improving patient outcomes.

The case studies cover the following three areas and a summary table is provided below:

3.1 Waste Reduction Campaigns

- 3.1.1 East Staffordshire CCG “What a Waste”

3.2 Care Homes

- 3.2.1 Nene CCG – Care Home Advice Pharmacist Team (CHAPs)
- 3.2.2. Northumberland CCG Care Home Medication Review Pilot
- 3.2.3 Northumberland CCG - SHINE Project
- 3.2.4 Ipswich and East Suffolk CCG Research - SIP Feeds
- 3.2.5 Sheffield CCG - Bulk Prescribing Guidance

3.3 Repeat Prescribing

- 3.3.1 Walsall CCG - Repeat Prescription Management Service (RPMS)

3.1 Waste Reduction Campaigns

3.1.1 What a Waste – East Staffordshire CCG

The ‘What a Waste’ project was led by Claire Dearden, Quality and Governance Lead for the Medicines Optimisation Team at East Staffordshire CCG. Claire and her team identified in the early scoping phase of the project that patients in the local area were unwittingly delegating their own health outcomes to third parties, and taking little responsibility in evaluating whether the care they were receiving was relevant, appropriate and effective. The project began in January 2014, and benefits have been tracked up until April 2014.

The project aims focused upon:

- improving patient outcomes
- empowering patients to take back responsibility for their overall health
- achieving a reduction in the amount of medicines wasted in East Staffordshire

The project team worked collaboratively with pharmacies, local hospitals, GP practices and community teams. They worked hand in hand with service users, and the results they have seen are testament to the way project staff worked with the patients themselves.

Patient centred medicines optimisation clinics imparted knowledge, and gave patients the opportunity to evaluate their own care identify any medicines no longer required or causing issues. They provided advice on how to use devices such as inhalers correctly, thus improving effectiveness, identify where medicines waste was taking place and propose prevention strategies with the patients. Patients were selected to attend if they fell in certain risk categories:

- Patients taking four or more prescribed items per month
- Patients ordering more than a month’s supply of prescribed medicines
- Patients with known medication adherence issues
- Patients highlighted by the GP practice which have general repeat prescription issues³

The campaign took advantage of access to community nurses across the region. Community medication pads were produced which allowed clinicians to feed back useable data to the medicines optimisation team. Examples of the data included prescribed items at the patient’s home (including painkillers, sip feeds, laxatives and dressings) problems with ordering or delivery of medicines and medication being delivered, but no longer required.

The CCG also went to great lengths to ensure patients were well informed that the campaign was taking place. Posters were placed in waiting rooms of GP surgeries, leaflets were attached to repeat prescriptions and letters were sent out to patients from their own Surgery. A communications strategy was also used to ensure as many people were ‘caught’ within the campaign:

³ “What a Waste” East Staffordshire CCG Medicines Optimisation Team; Claire Dearden, July 2014.

"A communications package included extensive press coverage in the local papers, BBC Radio Derby, Health watch and an article in the East Staffordshire Borough Council newsletter which went to every household in East Staffordshire."

Patient feedback was captured through a patient board, patient forum, and patient direct engagement board and practice groups. The CCG supported the process throughout including running patient open days.

The CCG saw the following results:

- Five patient-centred medicines optimisation clinics have taken place, to date these averaged annualised saving of £60.00 per patient as a result of better repeat prescription management and medicines waste education. The quality outcomes included highlighting falls risk, medication side effects which were resolved, patient's concordance of their medicines by suggesting the use of compliance aids. Initially 75 patients were requested to attend the clinics, from those 63 did attend. Whilst the report does acknowledge the small sample size, it is still a valid annualised saving which the authors believe to be worth including when considering best practice.
- Targeted mail shots highlighting the local levels of waste were sent out to patients during February/March 2014. The specific targeted area in East Staffordshire locality had been identified as returning more than 100kg of medicines waste on quarterly basis. However, during October 2014, the same pharmacists had not returned more than 100kg weight, this would indicate a behavioural change. It is to be noted that all outside factors were considered, and to the authors' knowledge, no external environmental factors affected the results seen.
- Pharmacy data collection forms showed evidence of pharmacists starting to engage with patients about better repeat prescriptions management where advice was given to help patients re-use some their current medication first, before re-ordering more⁴.

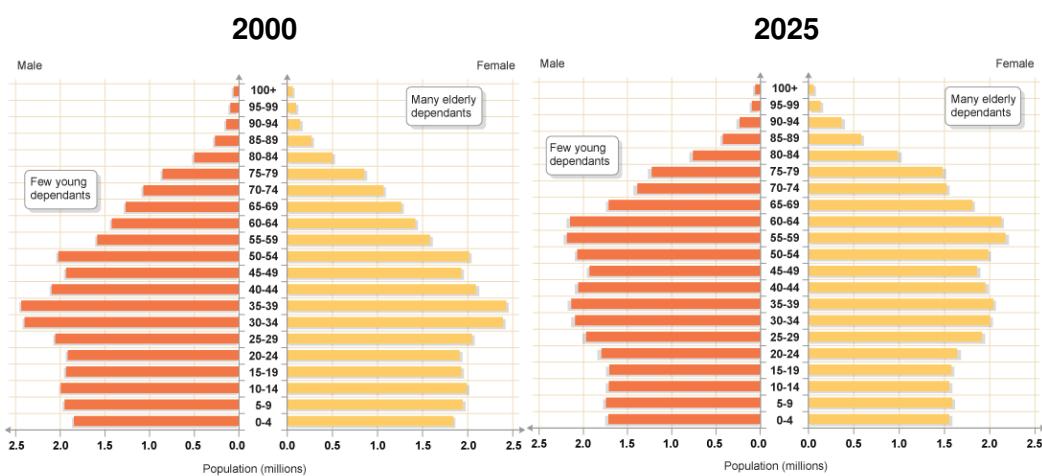
For further information please contact Claire Dearden
Claire.dearden@northstaffs.nhs.uk

⁴ "What a Waste" East Staffordshire CCG Medicines Optimisation Team; Claire Dearden, July 2014.

3.2 Care Homes

Data from December 2014 shows that in the UK, approximately 17.5% of the population are now over the age of 65⁵ - this represents an increase of 1.5% since 2010. Additionally, it is estimated that the number of people aged 85 and over will increase from the approximate current figure of 1.1 million to 3.3 million by the year 2046, with the biggest increase anticipated over the next decade⁶. Whilst the number of people in the UK aged 90 and over has increased by 33% in the last 10 years⁷

The following pyramid graphs show the predicted changes in UK demographic structure from 2000 to 2025



The consequence of an ageing population is a greater demand for healthcare and in particular, care homes in the UK. 'Care Homes Guide' states the following:

"In the light of the projected increase in the number of older people, the implications for care home and elderly support service providers are far reaching. Add to the mix, the breakdown of the extended family, which means that fewer people are living with and being cared for by their relatives. In practice, stay-at-home offspring who would once have cared for their frail parents and relatives, within their own home, are a rarity nowadays"

It has been estimated that approximately £50 million worth of NHS supplied medicines are disposed of each year by care homes⁸. This represents 17% of the total prescription medicine wastage in England each year. With the estimated rise in the number of people aged 65 and over in the next few years, it is reasonable to predict that the cost of medicine waste created by care homes will also rise unless there are changes to the current state.

⁵ CIA World Factbook December 2014

⁶ Care Homes Guide – 'Ageing Population & Implications for Care Home Provision'

⁷ Office for National Statistics December 2014

⁸ Evaluation of the Scale, Causes and Costs of Waste Medicine (2010) – UCL/YHEC Final Report

3.2.1 Nene CCG – Care Home Advice Pharmacist Team (CHAPs)

In 2012, Nene CCG delivered a presentation to the Northamptonshire Medicine Waste Conference on “The role of care homes in medicines waste reduction”. This presentation focused on common issues and misconceptions with care homes, but also the results of a pilot scheme run within the CCG.

It was believed that many of the causes of waste were due to residents having multiple conditions that necessitated complex treatments (polypharmacy), together with a high turnover of staff, lack of staff education and a lack of continuity of care. The result of this is that medication review is vitally important to ensure residents still require all of the medication they are prescribed.

Nene CCG set up the Care Home Advice Pharmacy (CHAP) Team in 2008. The team were tasked with prioritising medication optimisations for care homes within Northamptonshire. The team consisted of four pharmacists from the prescribing team within the CCG. The function of the team was to conduct medication reviews with GPs and Care Staff, audit medicines management and wastage within care homes and to support and advise care staff:

“Medication reviews are carried out using medical records and administration records. The reviews are done in great depth and detail, and we try to find the indication and reasoning for all the medicines prescribed for the patient. Suggestions are given to the GP involved in the residents care and ward rounds are held to discuss the suggestions with the input of the care home staff and residents where appropriate. The suggestions are then actioned by the CHAPs or GP as appropriate. This whole process can be a time consuming and lengthy but it ensures a thorough review is carried out.”

The CHAP team held a total of 1,792 medication reviews between 2008 & 2012, making a total of 5,913 suggested changes to medication. This was on average 3 per patient, and had a success rate (where GP agrees/approves) of 87%. The total costs saved during this period were £218,241, which equates to £122 per patient, per year.

Current figures suggest that over 350,000⁹ people in the UK are in care homes. Use of the Nene CCG model, if scaled up nationally shows potential to **save over £40 million per year**. This figure does not however take in to account the costs of running such schemes in every CCG, the recruitment and training costs nor the cost to analyse, collate and present the savings. Additionally, once the initial reviews have been completed and erroneous medicines removed, it is estimated that the annual “savings” would reduce as medicines management becomes more efficient [although given the established problem of high staff turnover, there is likely to be a recurrent need for training/education].

⁹ Source: ENRICH – Enabling Research in Care Homes – NHS National Institute for Health Research

3.2.2 Northumbria Healthcare NHS Foundation Trust – SHINE Project

Launched in March 2014 SHINE was led by Dr Wasim Baqir, a research & development pharmacist working for Northumbria Healthcare and partnered with Age UK North Tyneside. Its official title was ‘A clinico-ethical framework for multidisciplinary review of medication in nursing homes’. It was funded by The Health Foundation, an independent charity working to improve the quality of healthcare in the UK. The project is defined and summarised below.

“Our project proposes an innovative care home medication review service where residents and their families are involved in decisions about medicines. The project objectives are to undertake detailed care home medication reviews, questioning the appropriateness of prescribing and ensuring that all medicines prescribed have a clear and documented indication, are safe and clinically beneficial.”¹⁰

“Residents in care homes are more likely to be prescribed multiple medicines yet often have little involvement in these prescribing decisions. Reviewing and stopping inappropriate medicines is not currently adopted across the health economy. This Health Foundation funded Shine project developed a pragmatic approach to optimising medicines in care homes while involving all residents in decision making.

The pharmacist undertook a detailed medication review using primary care records. The results were discussed at a multidisciplinary team (MDT) meeting involving the care home nurse and the resident’s general practitioner (GP), with input from the local psychiatry of old age service (POAS) where appropriate.

Suggestions for medicines which should be stopped, changed or started, and other interventions (eg monitoring) were discussed with the resident and/or their family.

Over 12 months 422 residents were reviewed, and 1346 interventions were made in 91% of residents reviewed with 15 different types of interventions. The most common intervention (52.3%) was to stop medicines; 704 medicines stopped in 298 residents (70.6%). On average, 1.7 medicines were stopped for every resident reviewed (range zero to nine medicines; SD=1.7), with a 17.4% reduction in medicines prescribed (3602 medicines prescribed before and 2975 after review). The main reasons for stopping medicines were: no current indication (401 medicines; 57%), resident not wanting medicine after risks and benefits were explained (120 medicines; 17%), and safety concerns (42 medicines; 6%).

*The net annualised savings against the medicines budget were £77,703 or £184 per person reviewed. The cost of delivering the intervention was £32,670 (pharmacist, GP, POAS consultant, and care home nurse time) for 422 residents; **for every £1 invested, £2.38 could be released from the medicines budget.***

This project demonstrated that a multidisciplinary medication review with a pharmacist, doctor, and care home nurse can safely reduce inappropriate medication in elderly care home residents.¹¹

The results seen have been quite extraordinary, and if delivered consistently with national coverage, could be upscaled to a national level. Below are more detailed results from the SHINE project.

¹⁰ <http://www.health.org.uk/areas-of-work/programmes/shine-twelve/related-projects/northumbria-healthcare-nhs-foundation-trust/learning/> SHINE 2012 Final Report, March 2014.

¹¹ <http://qir.bmjjournals.org/content/3/1/u203261.w2538.abstract>

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No. of Care Homes included	20
No. of Residents Reviewed	422
No. of Residents requiring intervention	382
No. of Interventions	1,346
Medicines Stopped	704
No Indication	401
Patient Choice	119
Risk of Harm	41
Patient Decision Making Involvement	
Patient fully involved	57 (16%)
Family Involvement (in person)	137 (39%)
Family Involvement (letter)*	141 (40%)
Advocacy	16 (4.5%)
<i>*where no objections were raised following letter issued to outline intervention</i>	
Total Savings	£77,703
Total Savings per patient reviewed	£184
Cost to Deliver	£32,670
Net Savings	£45,033
Return on Investment (for every £1 spend)	
Overall	£2.38
Where no GP involved	£3.53
Where GP was involved	£2.54
Where GP consulted following MDT	£1.30

Current figures suggest that over 350,000¹² people in the UK are in care homes. Use of the SHINE model, if scaled up nationally shows potential to **save over £60 million per year**. As stated previously, this figure does not take in to account the costs of running such schemes in every CCG, the recruitment and training costs nor the cost to analyse, collate and present the savings.

For further information please contact Dr Wasim Baqir wasim.baqir@nhs.net

¹² Source: ENRICH – Enabling Research in Care Homes – NHS National Institute for Health Research

3.2.3 Northumberland CCG Care Home Medication Review Pilot

In a similar vein to the work carried out at NENE CCG, the Northumberland care home medication review pilot was a 6 month project with similar aims. The project looked to carry out individual medication reviews to optimise medicines use. The Blyth locality was chosen as the location of the pilot primarily due to the density and close proximity of care homes. The six month pilot ran from 1st July 2014 until 1st January 2015, and has subsequently been extended for another three months due to very encouraging results in its targeted areas. The team at Northumberland CCG worked closely with the North of England Commissioning Support Unit (NECS) and both bodies established before the pilot began that relationships were integral to the success of the project.

“Success of the pilot would depend on good engagement between member practices and the pharmacist. The pharmacist will need access to patient medication information held by the practice and they will give information to the GP prescriber about suggested interventions once a medication review has been undertaken.”¹³

The objectives of the pilot were:

- Improving prescribing quality in care homes
- Reducing prescribing costs in care homes
- Developing a medicine optimisation integrated service with Northumbria Healthcare FT
- Reducing avoidable hospital admissions

The Results were as follows

- Audit in 3 homes on waste meds which should have continued to be used rather than disposing of pre and post advice yielded annualised savings of £13k for 89 residents (cost reduction of £150/pt/year). Much of this due to discarding drugs dispensed by hospital to patient at discharge and reordered from community pharmacy – so waste in terms of GP practice time and pharmacy time as well as drug costs
- Advice given to Care Homes about using MAR charts correctly and auditing practice
- In four months 141 patients were reviewed, total 1317 medicines (9.31/patient)
- 150 meds were stopped (annualised saving £25,124)
- 73 changes were made to medicines (monitoring requests, dose rationalisation, switches etc) (annualised saving £3,632)
- 31 meds were started (annualised cost £2,953)
- **Net saving £25,803 - £183/patient**
- £15,400 savings in admissions avoidance.

For further information, please contact Sue White sue.white14@nhs.net

¹³ Northumberland Care Homes Medication Review Pilot

3.2.4 Ipswich and East Suffolk CCG Research - SIP Feeds

SIP Feeds are a nutritional supplement given to patients who have eating/swallowing problems, or who have suffered unintentional weight loss/are extremely underweight. SIP feeds are notoriously expensive to provide, and often are prescribed or dispensed in volumes/quantities far higher than is required. Research has shown that often patients are prescribed SIP feeds for a long period of time, with no obvious 'exit strategy'. The feeds can be unpleasant to take and are generally considered a short term measure – keeping patients on this medication in the long term is deemed a poor patient outcome.

Some work has been carried out by Ipswich and East Suffolk CCG¹⁴ looking at the implementation of tighter controls when prescribing and dispensing SIP feeds. They recruited a dietitian to introduce assistance and guidance for care home teams on the usage of SIP feeds. This focused on putting greater controls on the prescribing, dispensing and administering of SIP feeds with the aim of improving patient outcomes, but also reducing costs:

"In 11/12 our team recruited a dietitian and developed the sip feed guidance in conjunction with our local acute trust. We also put in place a service variation to tighten up on sip feed prescribing in the trust. These measures saw the spend on sips reduce."

Cost	2010/2011	2011/2012	2012/2013	2013/2014
Sip	£764,214	£591,743	£624,211	£690,698

Ipswich and East Suffolk CCG saw a 23% reduction in spending on SIP feeds from 2011 to 2012 when the above initiative was running. They have since seen a small increase, however this is believed not to be due to mis-prescribing and more in line with the change in overall demographics in the UK.

Trend Data from the Financial Year 2013-2014 shows that the NIC (Net Ingredient Cost) for the prescribing of Sip Feeds was £150M. If the 23% reduction experienced by Ipswich and Suffolk CCG was mirrored nationally, **this would present a potential saving of £35M.**

Trend data includes the top 10,000 presentations based on quantity dispensed plus all linking packs for these products which have been dispensed in the month reported – it should be noted that if a drug is not in the top 10,000 in any given month, then the prescribing levels are not included in the data. Given the high volumes of SIP feeds prescribed each month it is unlikely that there are omissions, however it is possible, and would require further investigation.

For further information, please contact Lois Taylor
Lois.Taylor@ipswichandeastsuffolkccg.nhs.uk

¹⁴ Source: Lois Taylor, Head of GP Prescribing, Ipswich and East Suffolk CCG

3.2.5 Sheffield CCG - Bulk Prescribing Guidance

Within care homes it is believed that the use of ‘when required’ (prn) medicines are contributing to medicine waste.¹⁵

“Patients in the community will request more when they run out, however care homes work on a 28 day cycle which is where difficulties arise.

Care homes often have ‘prn’ medicines in blister packs, which leads to wastage or even overuse if a ‘prn’ medicine is given when it is not needed. It is onerous for GP practices to vary quantities on lots of individual prescriptions every month, and this is also the case for care homes. What generally happens is medication is thrown away at the end of the month and a new prescription ordered”

A solution to this problem is “Bulk Prescribing” - this allows a care home to use one supply for all residents who are identified as suitable for the medication, rather than having individual patient supplies.

“A bulk prescription is an order for two or more patients bearing the name of a school or institution, e.g. a care home in which at least 20 persons normally reside, for the treatment of at least ten of whom a particular doctor is responsible (registered with a particular GP practice). Prescription only medicines (POMs) cannot be prescribed on bulk prescriptions and the only appliances that can be prescribed are dressings which do not contain POMs. Drugs that are not prescribable on the NHS cannot be prescribed on a bulk prescription”

Bulk prescribing has a number of benefits¹⁶:

- Potential to reduce waste saving money for the NHS
- Reduction of space required in the drug trolley
- Reduces drug round time / dispensing time
- Reduces potential for administration error

While demonstrable results/benefits of implementing this scheme are yet to be seen, this initiative has provided clear direction and opportunities to reduce waste in Care Homes and a number of guidance documents have been produced by various CCGs.

¹⁵ PrescQIPP Bulletin 66, May 2014

¹⁶ Sheffield CCG – Guidance on Bulk Prescribing for Care Home Patients

3.3 Repeat Prescribing

3.3.1 Walsall CCG - Repeat Prescription Management Service (RPMS)

Repeat prescribing is the traditional method of primary care prescribing¹⁷. It involves prescribing regularly needed medicines to a patient that they have used before and can be renewed by the GP without the patient needing to be present. In the 2010 Report - Evaluation of the Scale, Causes and Costs of Medicine Waste, the following was stated:

"most drug wastage is not primarily the result of deliberate patient actions.....root causes encompass.....factors relating to repeat prescribing and dispensing processes, which may independently of any patient action cause excessive volumes of medicines to be supplied"

Repeat prescribing can contribute to medicine waste in a number of ways¹⁸

- Items prescribed/dispensed, but not required by patients
- Items dispensed without being requested by patient
- Patients over ordering to create "Stock Pile" of medication (Often this applies to "When required" medication)
- Patient concerns over medicine shortages (Having "plenty of medicines as a stand by")
- Patient concerns over effects of non-adherence "always ask for everything on the slip..... don't want to run out, easier to say everything, don't want doctor to think I'm not using them properly by not re-ordering"

On average, a GP is required to authorise around 200 repeat prescriptions per week¹⁹

Past Initiatives

In 2010, Walsall CCG implemented a pharmacist-led repeat prescription management service (RPMS). The service was aimed at reducing medicine wastage, minimising possible harm from medicines and improving the quality of repeat prescriptions.

The service used a pool of practice pharmacists attached to the CCG. A GP practice would contact the CCG to request pharmacist resource, and a pharmacist would be matched to the practice. The pharmacist would spend a minimum of 4 hours each week in the practice (this would vary depending on the needs of the Practice). The Pharmacist's time would be paid for out of the GP practice's prescribing budget, however the anticipated savings would exceed the expenditure.

In this system, the pharmacist generated the repeat prescription and authorised those within his or her medical competence, with the remainder being authorised by the GP. The role of the pharmacist in this case was to produce and sign all prescriptions (other than those outside of their medical competence) and importantly change any prescriptions to more appropriate alternatives that meet the prescribing indicator objectives. Additionally, the

¹⁷ http://www.npc.nhs.uk/repeat_medicine/repeat_prescribing/

¹⁸ The role of Community Pharmacists in Waste Reduction and Medicines optimisation – Mukesh Lad – Northamptonshire Medicine Waste Conference 2012

¹⁹ Pharmacist-led repeat prescription management: ensuring appropriate prescribing and reducing wastage – Walsall CCG

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pharmacist was tasked with reviewing each prescription, eliciting information from both the GP and the patient to understand the appropriateness of the prescription request. This information helps with waste reduction, optimising treatments, reducing health inequality and enhancing medical safety.

56 of the 62 Practices in Walsall CCG used the service. This represents 90% of all practices within the CCG. Between April 2013 and March 2014 savings realised were a **net of £610,270 (this represents total savings of £907,848 through interventions, less the cost of the Pharmacists at £297,578)**

Net Savings in 2013/2014 Calculated as the gross savings from pharmacist interventions minus the cost of the pharmacists' time, as below:	£610,270
Pharmacist intervention category	Savings
Efficiencies medication added/stopped formulation changes brand to generic (or generic to brand) simple switches medication alignment removing duplicates of items that are no longer required wastage from over ordering	£816,262
Reduction in harm highlighting medicines non-adherence up-to-date drug monitoring up-to-date monitoring	£4,937
Quality national prescribing comparators, for example for antidepressant or low cost lipid modifying drug choice/formulary adherence optimise dosage problem linkage/indication correspondence updates medication review referral to GP/nurse signposting	£86,649
Gross savings from interventions in 2013/2014	£907,848
Cost of pharmacists in 2013/2014 Pharmacists provided between 4-8 hours per week to each practice	-£297,578

These figures demonstrate that **for every £1 invested in the service, there was a saving of £3.05.**

"The NHS-wide prescribing spend in 2011 was reported as over £8.5 billion²⁰. This service saved 1.56% of total repeat prescribing achieved using RPMS, which if extrapolated across the entire NHS could lead to a saving of over £106 million"²¹

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²⁰ Health and Social Care Information Centre 2012

²¹ Pharmacist-led repeat prescription management: ensuring appropriate prescribing and reducing wastage – Walsall CCG

4.0 Information Governance

Please note that it has not been confirmed that the featured studies are IG compliant. For example, when case study 3.1.1 says, ‘Community medication pads were produced which allowed clinicians to feedback useable data to the medicines optimisation team’, it’s not clear whether the ‘useable data’ was anonymised, or whether the ‘optimisation team’ was part of the direct care team.

If patient data was not anonymised there would have to be a legal basis for its disclosure to the optimisation team. That legal basis is likely to have been explicit consent. Even if the team was made up of members of the direct care team, it’s not clear that the optimisation process was something patients would think of as part of direct care, in which case their consent cannot be implied. (The information campaign mentioned in the study was no doubt very beneficial but patient agreement could not safely be inferred from it.)

This concern applies to the other studies in which review teams have been set up and given access to patient information. You must have a legal basis for this and it looks like that basis will have to be the explicit consent of each patient. Then you must make sure that the information is the minimum required, that only those who need access to it have access, and that it is secure. If you are unsure about any of these things you should discuss them with your local IG support.

5.0 Conclusions

The case studies have shown that focus at the point of prescribing and dispensing can be very successful, especially when reviewing repeat prescriptions. The most successful schemes have been spearheaded by Pharmacist-led intervention at the point of prescribing. The ability to identify instances of unnecessary/unwanted medication, patient non-adherence or errors in dosage enables the pharmacist to isolate potential waste at source, and prevent unnecessary dispensing. Work needs to be carried out to make waste reduction part of the everyday culture of the NHS – it is only through sustained cultural change that a long term, significant reduction in pharmaceutical waste can be achieved. As with the examples in this paper, when delivering local pharmaceutical waste reduction programmes, providers need to pay due regard to both public sector equality, and health inequalities duties.

The case studies covered in this paper go some way to bringing about this culture change at a local level and have demonstrated a number of common themes. These themes are:

Support at point of prescribing – *intervention, or focus at the point of prescribing to ensure that the correct medication, in the correct dosage, is being prescribed and that the patient fully understands the way in which the medicines should be taken to achieve the best health outcomes.*

Control of medicine optimisation – *conducting a review of medicines at regular intervals to avoid unnecessary dispensing and to ensure any changes in patient symptoms are reflected in changes to medication.*

Benefits (traceable/measureable) – *projects where there have been measurable benefits, such as the volume of successful interventions (particularly where potentially harmful non-adherence was occurring) or the volume of efficiencies (where medicines have been optimised causing a health benefit to the patient and a financial benefit to the CCG). Essentially, any project or scheme that is successful must understand the current state of waste and be able to track the benefits throughout the life of the project and beyond. Being able to highlight and demonstrate these patient led benefits are key to ensuring a project can transition into business as usual, making long-term changes rather than disappearing as one off piece of work.*

Governance & Knowledge – *interventions and focus from competent and knowledgeable people with the skills to optimise medicines and increase efficiencies. Utilising pharmacist knowledge in the monitoring of repeat prescriptions, with the ability to inform and educate patients and Care Home staff with the goal of changing culture.*

Communication – *Effective communication has been seen where multi-disciplinary teams have been able to communicate both internally to create an efficient team, but also with external stakeholders.*

When considering implementing the ‘best practice’ described in this paper it is important to incorporate these themes to provide a framework that can be used support delivery of effective change at a local or national level. Of these themes the “Benefits” theme has often had the least focus and it is clear that it must be strengthening in any future initiatives. It has been shown that without robust understanding and tracking of the beneficial effect of an initiative (improved patient outcomes, financial savings etc.) it is hard to sell the success in a way that achieves longevity of the initiative. It is only by being able to demonstrate these benefits that initiatives have been able to keep funding, sponsor buy in, and sustained momentum. Without installing longevity into such waste reduction projects it will not be possible to achieve any long term meaningful shift in patient, prescriber, and dispenser behaviour that would result in an overall sustained reduction in pharmaceutical waste. Throughout all of the compiled case studies, success has been measured differently by the organisations which initiated them, however, it must be remembered that positive patient outcomes remain the ultimate aim.