



# PRIMARY CARE HOME (PCH) POLYPHARMACY RAPID TEST SITE

Cambridgeshire Community Services and Medics United GP Cluster

## PILOT EVALUATION REPORT

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## EXECUTIVE SUMMARY

Increased use of drugs has raised concern about the risks of polypharmacy in the elderly population. Adverse outcomes, such as hospital admissions and falls, have been shown to be associated with polypharmacy.

As part of the National Association of Primary Care (NAPC) Primary Care Home model, CCS and Medics United GP Cluster in Luton worked together testing a pathway to improve the care for patients with polypharmacy by introducing a comprehensive medication review service led by a Clinical Pharmacist. This was a 3 month pilot and involved the joint working of both organisations.

The pilot target group was agreed as:

- >75 years old, taking >10 medications, listed on 5 morbidity registers.
- Patients authorised by their GP as suitable to take part in the test.
- Patients must have consented to sharing data with CCS to participate in the test.

These reviews carried out both at the patient's home or at their GP surgery, were designed to give patients the opportunity to discuss how they felt about their treatments and to talk about side effects or any concerns they had in an extended appointment with a Clinical Pharmacist. The objective of the reviews was to:

- Identify medications that could be stopped or started
- Support and improve patient medication compliance
- Identify any prescribing or dispensing errors
- Identify and prevent adverse drug reactions and risk of hospital admissions.
- Improve the quality of life for the patient
- Reduce the amount of wasted medication.

Standardised documentation and tools were created for the review including a tool to measure patient adherence and a risk indicator tool for medicine related issues. These were created from research and best practice resources. Completed tools and outcomes were recorded in the patients' records. Any medication recommendations were discussed with the GP, who remained the patient's prescriber.

55% of the patient cohort identified accepted the offer to have an initial medication review and 65% of these patients agreed to have a follow up appointment.

71 medications were stopped during these reviews with 20 of these registered as high risk medications. Repeated surveys completed at the follow up review indicated a reduction in the risk of medicine related issues across the cohort.

Longer term outcomes continue to be measured. Data has been collected for the pilot cohort from the previous 12 months before review on number of hospital admissions, falls, contacts with GP practice staff appointments and visits, and OOH/emergency contacts this data has been collected again at 6 months post review and will need to be collected again at 12 month post review and analysed. Initial analysis indicates a significant reduction in GP appointments over the 6 month period post pilot and whilst a different timeframe has been used, and further monitoring over the next 6 months is required, the data does appear to indicate a notable change. There were 892 GP

appointments in the 12 month period prior to review compared to 311 6 months post review. Whilst it difficult to attribute this solely to the medication review and changes that may have been made it does warrant further analysis 12 months post pilot to see if this change continues.

The role of the Pharmacist working within a GP cluster did show having a structured Medication Review had benefits and there were medication cost savings in this group which might be replicated to larger more significant savings in other groups.

Patient satisfaction with the Clinical Pharmacist Medication review was high – indicating this area of patient care and monitoring, which can be very time consuming can be delegated to a Pharmacist saving GP time and resource. There was also recognition from the GP's and the Clinical Pharmacist that this role could be expanded to include undertaking Health Checks, monitoring of Long Term Conditions and being part of the MDT's. The Clinical Pharmacist identified during the pilot that he had learnt about other services available to patients and how to refer patients to these, the role would therefore be very holistic.

On review, GP practice colleagues reported that they felt that other groups of patients would also greatly benefit from a clinical pharmacist medication review. Should the cluster want to explore this opportunity further the Clinical Pharmacist involved in this pilot recommended that 1 full time pharmacist could manage the medication reviews for the cluster.

## **1. INTRODUCTION**

Increased use of drugs has raised concern about the risks of polypharmacy in the elderly population. Adverse outcomes, such as hospital admissions and falls, have been shown to be associated with polypharmacy.

Older people are more vulnerable to morbidity and mortality secondary to drug-related harms because of age-related changes and pathologies; co-morbidity of chronic conditions, such as cardiovascular diseases and psychological disorders; and different pharmacokinetics and pharmacodynamics. Consequently, older adults are more susceptible to adverse drug reactions. (BMJ: Defining polypharmacy in the elderly: a systematic review protocol, March 2016).

Like many health systems, Luton is struggling to accommodate increasing demands on urgent care, prevention in avoiding these admissions by increasing awareness, promotion of self-management, and collaborative working has become incredibly important.

Previous national studies of prescribing practices for patients in care homes have revealed that unnecessary drugs were being prescribed, the wrong dose or strength being prescribed and not prescribing a drug when it should have been prescribed. One alarming reason that contributed to these errors was revealed to be administrative errors. Other findings from these studies also highlighted concerns on the monitoring processes being employed to safeguard patients from adverse reactions and subsequent complications resulting from the combination of medicines.

As part of the NAPC Primary Care Home model CCS and Medics United GP Cluster worked together testing a pathway to improve the care for patients with polypharmacy by introducing a comprehensive medication review service led by a Clinical Pharmacist. This was a 3 month pilot and involved the joint working of both organisations.

## **2. PILOT OBJECTIVES**

The pilot objective was to test a comprehensive medication review service delivered by a Clinical Pharmacist for patients over 75 years old and taking >10 medications.

### **Specific objectives:**

- To identify medications that could be stopped or started
- To improve patient medication compliance
- To identify prescribing or dispensing errors
- To identify and prevent adverse drug reactions and risk of hospital admissions
- To improve the quality of life for the patient

## **3. PILOT OVERVIEW**

### **3.1. SCOPING/PLANNING/PRE TEST STAGE**

Three separate workshops of 2.5 hours were held at a central location to scope, plan and develop tools and documentation to be used in the test.

The workshops had representatives from all seven practices in the cluster – including GP's, Practice Managers, and administrative colleagues. From Luton Clinical Commissioning Group (LCCG) there was medicine management attendance and from Cambridgeshire Community Services (CCS) Service Delivery Manager, Project Operational Lead, Pharmacy Technicians, Community Matron, MDT co-coordinator. A community pharmacist attended one workshop to offer input and Healthwatch and Age UK were invited but unable to attend.

The cohort was agreed with consideration to which groups of patients would potentially benefit in taking part.

The medication review pathway was scoped and agreed with roles and responsibilities identified. Appendix A.

A Standard Operational Procedure (SOP) was drafted and then finalised as a working document for the test.

Recruitment of a Clinical Pharmacist was undertaken with the final Pharmacist in post coming from agency applications – it was agreed Dr Barhey (GP) Cluster Lead would be responsible for the clinical supervision for this role.

Documentation created for this pilot includes:

- Patient Information leaflet – Appendix F
- Patient invite letter

- Patient Adherence Survey – Appendix B
- Risk Indicator Tool for Medicine Related Problems - Appendix C
- Patient Medication Review Tool - Appendix D
- Data collection trackers
- Patient Satisfaction Survey – Appendix E
- Staff Satisfaction Survey – Appendix H
- Communication Plan
- Stakeholder newsletter
- Standard Operating Procedure – Appendix G
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**Issues discussed and agreed were:**

Information Governance (IG) – practices gave access to their clinical systems and patients were advised when contacted that they were participating in a test and consent was sought.

Clinic Schedules – Room availability was matched to Clinical Pharmacist capacity and a schedule was agreed, with each practice having 1 medication review session/ week over a 13 week period.

How/what to measure – outcome measures were discussed and KPI’s agreed – other expert input was sought to help set these – pharmacist, patient experience, and accountancy.

**Scope:**

- Patients registered with Medics United GP cluster, practices detailed below, and living in Luton.

<b>Medics United GP Practice</b>	<b>Practice population</b>
Woodlands Avenue	12,000
Bellhouse	10,141
Barton Hills	7,511
Gardenia	12,458

- Target Group > 75 years old, taking >10 medications, listed on 5 morbidity registers.
- Patients authorised by their GP as suitable to take part in the test.
- Patients must have consented to sharing data with CCS to participate in the test.

**Out of Scope:**

- Patients who met the criteria but residing in a Care Home or Residential Home.
- Patients on a Palliative Care pathway.
- Test length was 3 months only and should not be seen as permanent pathway.
- Patients who were involved in the pilot would continue to have medication reviews after the pilot in line with their GP practice policy and Luton CCG guidelines.

**Identifying Cohort of patients**

Extensive searches and data cleansing resulted in 113 patients across 4 practices being identified as the cohort for the test who would be invited for Medication Review either in their GP practice or at a home visit.

During the planning stage one GP practice declined to continue with the test and two GP practices were in the process of being de-commissioned and were subsequently omitted.

### **3.2. IMPLEMENTATION**

Medication reviews started in September 2016 and were completed in December 2016.

Clinic appointments and home visits followed the same pathway. The Clinical Pharmacist had 1 hour allocated for each review – this was estimated using 45 minutes for face to face consultation with the patient and 15 minutes for recording and data entry of all the findings.

Additional administration time was allocated to the Clinical Pharmacist for discussions with GP's regarding review outcomes and decision making, clinical supervision, weekly meeting with Operational Manager to update test progress and identify issues which could then be resolved and ad hoc work which the test required.

Patients were contacted by letter with an information leaflet enclosed and asked to participate in the test.

When a patient responded a surgery appointment was scheduled or a home visit was arranged. Patients were asked to bring along all their medication to the appointment and were advised they could be accompanied by a relative or carer – they were also asked to think about any questions or queries they might have and could discuss with the Clinical Pharmacist.

Standardised documentation was used for the reviews. Outcomes were recorded in the patients' records. The Clinical Pharmacist arranged to discuss any medication recommendations with the GP. All completed documents; adherence and risk tools were scanned into patient GP records.

Data for the test was captured on a tracker at the project site; patients were identified by their practice, a project code and NHS number.

Regular monitoring of the progress was done by the project team and patients who had not responded were contacted by telephone to encourage participation.

Three months after the first medication review patients were contacted and asked to arrange a follow up review. This was to monitor progress with any changes, repeat adherence and risk scores and develop the process with patients of self-management encouraging patients to identify medication issues and have mechanisms in place to resolve them quickly.

This follow up review was undertaken by CCS Pharmacy Technicians as the Clinical Pharmacist had been able to assess at the Medication review that patients were suitable for Pharmacy Technician review.

Feedback and discussion on the test progress was captured at the monthly GP cluster meeting and by project team contact with the GP practices – a newsletter was circulated and meeting held with Healthwatch.

The project group reported monthly to the CCS Executive Programme Board.

It is planned to provide an outcomes newsletter to all Luton GP's, LCCG, CCS, community pharmacists, Healthwatch and Hospital.

### 3.3. COSTS

Funding to support this pilot was provided by NAPC; however, the pilot did also rely on CCS colleagues being released to support this work.

<b>NAPC FUNDING</b>	<b>£</b>	<b>70,000</b>
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#### **PILOT COSTS**

OPERATIONAL LEAD (ALLOCATED TO THIS PILOT)	£	23,500
MEETING ROOM HIRE (COST SPLIT BETWEEN TWO PILOTS)	£	112.
PHARMACIST	£	11,000
GP ATTENDANCE WORKSHOPS	£	1,635
CATERING	£	50
PROJECT SUPPORT ASSISTANT (20% OF TIME)	£	1,800
	<b>£</b>	<b>38,097</b>

#### **CCS STAFF RELEASED FROM CLINICAL DUTIES TO SUPPORT THE PILOT NO PCH FUNDING USED FOR THIS**

Pharmacy Technicians (20hrs for 6 weeks)	£	1,747.20
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#### **OTHER STAFF SUPPORTING BUT NOT COSTED:**

Assistant Director of Business Development, Contracts and Strategy

Service Redesign Delivery Manager

Service Director (Strategic and Operational Leadership and Management)

Diabetes Lead Nurse (Operational Management, supporting workshops etc.)

Service Management Accountant (Financial support, cost benefit analysis)

GPs (attending workshops, co-designing the pathway, sharing updates with practice etc.)

Practice Managers (attending workshops, assisting with the setting up of clinics, extracting data, patient contact etc.)

## 4. OUTCOMES

### 4.1. PATIENT COHORT

- 113 patients were identified to be the test cohort
- 62 patients accepted the offer to be part of the test and attended their practices for a review or had a home visit = 55% of identified cohort
- 0 patients who arranged a Medication reviewed DNA'd or cancelled

#### 4.2. MEASURABLE OUTCOMES/ KPI'S

#### PRIMARY CARE HOME – POLYPHARMACY PILOT – OUTCOMES AND KPI's

Benefit	Tool used/measure/evidence	Outcome
<b>Health and Wellbeing</b>		
> 50% of patients improved compliance in their medication regime	<b>Adherence tool</b> completed by Clinical pharmacist at medication review and repeated 3/12 after review by pharmacy technicians	Not met – adherence scores on follow up review increased. Please see comments in section 4.6.
Reduced risk of patients developing an ADR or being admitted to hospital due to medication issues – includes prescribing and dispensing errors	<b>Risk tool</b> completed by Clinical Pharmacist at medication review and repeated 3/12 after review by pharmacy technicians	46% of patients reviewed scored as low risk. 39% scored as low risk on the initiation review.
<b>Care and Quality</b>		
Measure on improved quality of life	Patient satisfaction survey  Patient story	39 patients completed a satisfaction survey at their follow up – all patients who did not have a follow up were sent a survey to complete – 2 returned Final number of surveys completed = 43 = 66%  Practice data for surveys collated  Detailed analysis of patients satisfaction in evaluation report, but overall patient satisfaction was high
<b>Finance and Efficiency</b>		
Target of 2-5% Reduction in projected annual medication costs for patient cohort – includes	Data collected at Medication review on: No. meds stopped	Costings calculated by CCS Accountant and spread sheet populated

prescribed items and wastage	No meds started	Final savings across the cohort = £4627.97 Further analysis needs to be done to show savings in % reduction
Reduced no. of hospital admissions	Patient activity data collected for 12/12 prior to Medication review Data collected for 6 months post medication review  Data to be collected and reviewed at 12/12 intervals after review	49 hospital admissions in 12 months prior to medication review across patient cohort. 6 months post pilot – 18 hospital admissions.  NB: due to the complexity of the conditions these patients have it is difficult to attribute any change to the medication reviews. Further analysis required at 12 months post pilot.
Reduced no. of GP appointments	Patient activity data for contact with GP's, other clinicians and OOH activity collected from 12/12 prior to medication review and 6/12 post review  Data to be collected for 12/12 after review	892 GP appointments across cohort in 12 months prior to the medication review.  311 GP appointments across cohort in 6 months post pilot.  NB: due to the complexity of the conditions these patients have it is difficult to attribute any change to the medication reviews. Further analysis required at 12 months post pilot.
Monitoring of falls activity	Patient falls activity data collected for 12/12 prior to review and 6/12 post review  Data to be collected at 12/12 post review	19 listed falls across the patient cohort in 12 months prior to the pilot. 10 listed falls across the patient cohort in 6 months post pilot.
<b>Pilot KPI's</b>		
>70% of patients in cohort to receive a medication review using the agreed process and standardized tool	Clinical Pharmacist to record all medication reviews completed on tracker Uptake of offer of medication review encouraged by letters to patients and individual phone call contact to patients by	Patient final cohort No. 113  Patients who received a medication review 62 (55%)

	clinical pharmacist before patient was recorded as declined	Final outcome = 55%
100% of reviews to be recorded and next steps agreed with patient	Clinical Pharmacist to record all consultations in patient records and all project documentation used to be scanned onto patient record	100% of patient medication reviews recorded in patient surgery record and documentation scanned
Patient experience – 75% of patients to complete a patient satisfaction survey at follow up review	Patient satisfaction survey document to be completed with patient	39 of 43 patients that accepted a follow up review by CCS pharmacy technician completed the patient satisfaction survey Remaining 19 patients who had first medication review sent a survey to complete – 2 returned  Total surveys completed = 41 = 66%
GP/Staff experience 100% of staff involved in pilot to complete questionnaire	Staff Questionnaire	5 questionnaires returned Input from 3 practices obtained  Final Outcome = 75%
Other data captured		
Discharge letters from recent hospital admissions - ? accurate and acted upon	Clinical Pharmacist to review hospital discharge letters and record actions if taken	Clinical pharmacist did not report any discharge problems
Prescribing errors	Clinical Pharmacist to document errors	None reported
Dispensing errors	Clinical Pharmacist to document errors	1

#### 4.3. CLUSTER DATA

<b>No. of patients contacted</b>	<b>113</b>	
<b>No. of patients reviewed</b>	<b>62</b>	<b>55%</b>
<i>No. of home visits</i>	<i>37</i>	<i>60%</i>
<i>No. of Surgery appointment reviews</i>	<i>25</i>	<i>40%</i>
<i>No. of patients who DNA'd</i>	<i>0</i>	<i>0%</i>
No. of patients who passed away – at various stages of the pilot	7	

#### 4.4. PRACTICE DATA

<b>GP practice</b>	<b>Total reviews completed</b>	<b>Home visits</b>	<b>Surgery appointments</b>
Barton Hills	18	7	11
Bellhouse	11	9	2
Gardenia	20	12	8
Woodlands Avenue	13	9	4
<b>Total</b>	<b>62</b>	<b>37 (60%)</b>	<b>25 (40%)</b>

It was noted that there were a higher number of home visits than surgery appointments – of the 37 (60%) home visits many of these patients were not housebound and could attend surgery but chose to have the review in their own home. A sample were asked by the Clinical Pharmacist the reason for their choice and most advised it was easier and more convenient.

#### 4.5. FOLLOW UP REVIEW

- 43 of the 62 patients reviewed accepted and received a follow up review 3 months after their initial medication review = 69%
- The remaining 19 patients either declined the offer, passed away, moved into residential/nursing care, or were no longer on the practice list (reason unknown).
- All follow up reviews were completed at the patients' homes by CCS Pharmacy Technicians.

<b>GP Practice</b>	<b>No follow up reviews</b>
Barton Hills	12
Bellhouse	8
Gardenia	12
Woodlands Ave	11
<b>Total</b>	<b>43</b>

#### 4.6. PATIENT ADHERENCE

Medication adherence is defined by the World Health Organization as "the degree to which the person's behaviour corresponds with the agreed recommendations from a health care provider."

Adherence to therapies is a primary determinant of treatment success. Medication non adherence in patients leads to substantial worsening of disease, death and increased health care costs.

Poor provider-patient communication, inadequate knowledge about a drug and its use, not being convinced of the need for treatment, fear of adverse effects of the drug, long term and complex drug regimens that can require varying dosing schedules can all affect the effective use of medicines.

Involving patients and understanding their concerns and issues with their current medication regime was a key part of the medication review assessment. A 2009 report from NICE<sup>1</sup> indicates that over a third of all medications prescribed for long term conditions are not taken as recommended.

The adherence tool used in this pilot was developed following research into different adherence tools available and colleagues' knowledge and experience. The tool asked patients to answer 11 questions with yes or no; a score was applied against each answer. The lower the score the less adherence risks. A maximum of 11 could be scored; all questions are equally important and identify specific issues. Patients that struggled with independently completing the survey were assisted by a carer, friend or family member (if at the appointment) or by the Clinical Pharmacist/Pharmacy Technician.

The answers to these questions helped inform the medication review and discussion on support strategies to improve adherence.

##### 4.6.1. First Medication Review Adherence Scores

The table below shows adherence scores at first Medication Review by Clinical Pharmacist

The highest score across the cohort (62 patients) was 5.

GP practice	No. patients	Total Score						% patients with 0 adherence scores
		0	1	2	3	4	5	
Barton Hills	18	9	6	2	0	1	0	50%
Bell house	11	4	6	0	1	0	0	36%
Gardenia	20	10	6	3	0	1	0	50%
Woodlands	13	5	6	1	0	0	1	38%
<b>Total</b>	<b>62</b>	<b>28</b>	<b>24</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>1</b>	

<sup>1</sup> Medicines adherence: involving patients in decisions about prescribed medicines and supporting adherence  
Clinical guideline [CG76] Published date: January 2009

52 patients (84%) had a total score of 0 or 1.

Two questions received the most negative responses indicating issues:

Question 2 - Do you understand what your medications are for?

Question 10 - Do you return unwanted, unused medication to your pharmacy?

Both these issues were addressed during the review and have benefits to the patient, understanding what the medications are for contributes to self-management and empowerment and being aware of returning medications no longer in use, reduces risk of stock piling.

#### **4.6.2. Follow up Medication Review Adherence Scores**

The table below shows adherence scores at Follow up Review – three months after Initial Medication review.

The highest score across the cohort (43) was 5.

GP practice	No. patients	Total score					
		0	1	2	3	4	5
Barton Hills	12	0	3	3	5	0	1
Bell house	8	2	3	3	0	0	0
Gardenia	12	3	4	2	3	0	0
Woodlands	11	1	0	5	4	0	1
<b>Total</b>	<b>43</b>	<b>6</b>	<b>10</b>	<b>13</b>	<b>12</b>	<b>0</b>	<b>2</b>

When the adherence scores were compared at first review and then at follow up review – it indicated that there was an increase in adherence risk.

These results did not correspond with the patient feedback. This tool may therefore be best used to inform a medication review and discussion areas.

#### **4.7. RISK INDICATOR TOOL FOR MEDICINE RELATED PROBLEMS**

After several weeks/months of research and telephone calls with colleagues from other areas a tool developed by NHS Midlands and East (which aims to help identify those people who might be at an increased risk of medicine related problems) was agreed to be used for the pilot. A medicine-related problem (MRP) is defined as “an event or circumstance involving drug therapy that actually or potentially interferes with their desired outcome”<sup>2</sup>

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<sup>2</sup> Pharmaceutical Care Network Europe (PCNE)

MRPs are more common in polypharmacy patients and can increase the risk of hospitalization. A comprehensive medication review should thoroughly assess the combination of medications and associated risks.

The tool considers a total of 8 areas; a maximum of 18 could be scored indicating a high risk.

#### 4.7.1. First Medication Review Risk Indicator Score

The table below shows risk indicator tool scores at first Medication Review by Clinical Pharmacist – the highest score in the cohort was 11

GP Practice	No. pts	Total score		
		0 -6 Low Risk	7-12 Moderate Risk	13-18 High Risk
Barton Hills	18	7 (39%)	11 (61%)	0
Bell house	11	3 (27%)	8 (73%)	0
Gardenia	20	5 (25%)	15 (75%)	0
Woodlands	13	9 (69%)	4 (31%)	0
Total	62	24 (39%)	38 (61%)	0

#### 4.7.2. Follow up Medication Review

The table below shows risk indicator tool scores at Follow up Review – three months after Initial Medication review.

GP Practice	No. pts	Total score		
		0 -6 Low Risk	7-12 Moderate Risk	13-18 High Risk
Barton Hills	12	5 (42%)	7 (58%)	0
Bell house	8	5 (63%)	3 (37%)	0
Gardenia	12	7 (58%)	5 (42%)	0
Woodlands	11	3 (27%)	8 (73%)	0
Total	43	20 (46%)	23 (53%)	0

A comparison of the risk scores from the first review and the follow up indicates a reduction in risk for patients from Barton Hills, Bell house and Gardenia. Woodlands patients scoring a higher risk rating on the follow up review were investigated further and the conclusion was that the higher scores were due to a different medication regime, change in blood results or high risk medications started in that period.

#### 4.8. PATIENT SATISFACTION SURVEY OUTCOMES

- 41 of the 62 patients completed a Patient Satisfaction Survey = 66%
- 39 completed at follow up review with Pharmacy Technician – a further 2 surveys were completed and returned by post.

**Question 1** – Fully understanding your concerns-communicating that he had accurately understood your concerns, not overlooking or dismissing anything

GP Practice	Patient Response				
	Poor	Fair	Satisfactory	Good	Excellent
Barton Hills	0	0	1	2	7
Bell house	0	0	3	2	3
Gardenia	0	0	3	8	0
Woodlands	0	2	1	2	5
<b>Total</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>14</b>	<b>15</b>

95% of patients scored this question satisfactory or above indicating they felt their concerns were understood by the Clinical Pharmacist.

Listening to patients, acknowledging and understanding their concerns have benefits for the patients. Looking at what motivates patients to manage their own health and participate actively in their care has shown that acting on patient reported concerns improves motivation For health professionals knowing what may be blocking a patient from taking medication and resolving these issues has benefits and improvements for health.

**Question 2** – Explaining things clearly – Fully answering your questions, giving you adequate information, not being vague

GP Practice	Patient Response				
	Poor	Fair	Satisfactory	Good	Excellent
Barton Hills	0	0	1	4	5
Bell house	0	1	0	2	5
Gardenia	0	0	1	9	1
Woodlands	0	1	4	4	5
<b>Total</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>19</b>	<b>16</b>

95% of patients answered satisfactory or above to this question – indicating patients felt their questions had been answered clearly and with the right level of information given

Giving time to explore patient’s questions has benefits in encouraging self-management and motivation.

The Clinical Pharmacist had time factored into the consultation to undertake this and patients were asked before the appointment to think about any areas they would like to have more information about.

**Question 3 – Helping you to take control – Exploring with you what you can do to improve your health yourself, encouraging rather than lecturing you**

GP Practice	Patient Response				
	Poor	Fair	Satisfactory	Good	Excellent
Barton Hills	1	0	3	1	6
Bell house	1	0	3	3	1
Gardenia	2	1	4	4	0
Woodlands	0	0	2	4	3
Totals	4	1	12	12	10

**88%** of patients scored this question Satisfactory or above, indicating the Clinical Pharmacist understood the patients' health condition and had the knowledge and skills to give information and ways of self-management.

**Question 4 – Making a plan of action with you – Discussion the options, involving you in decisions as much as you want to be involved, not ignoring your views**

GP Practice	Patient Response				
	Poor	Fair	Satisfactory	Good	Excellent
Barton Hills	1	1	2	0	6
Bell house	1	0	4	2	1
Gardenia	4	2	1	4	0
Woodlands	0	1	4	0	5
Totals	6	4	11	6	12

**75%** of patients scored satisfactory or above to this question and **14%** scored this question as poor – indicating that making an action plan needs some improvement in delivery. A written plan of action was not included in the review pathway for the Clinical Pharmacist and would be added in a future pathway.

**Question 5 – Overall how would you rate your appointment with the clinical pharmacist**

GP Practice	Patient Response				
	Poor	Fair	Satisfactory	Good	Excellent
Barton Hills	0	1	3	2	5
Bell house	0	0	1	4	3
Gardenia	0	0	2	8	1
Woodlands	0	2	2	2	4
Totals	0	3	7	16	13

92% of patients scored this question satisfactory or above.

**Question 6 – The appointment helped me to understand the intended use of my medicines**

GP Practice	Patient Response				
	Poor	Fair	Satisfactory	Good	Excellent
Barton Hills	0	2	3	2	4
Bell house	0	0	4	1	3
Gardenia	1	2	5	3	0
Woodlands	0	2	3	2	3
Total	1	6	15	8	10

89% of patients responded satisfactory or above to this question.

**Question 7 – The appointment helped me to understand how to take my medicines safely and correctly**

GP Practice	Patient Response				
	Poor	Fair	Satisfactory	Good	Excellent
Barton Hills	0	1	4	1	5
Bell house	0	1	4	0	3
Gardenia	0	1	8	2	0
Woodlands	1	1	4	2	3
Totals	1	4	20	5	11

92% of patients responded Satisfactory or above to this question – improving patients understanding of medications and how to take them contributes greatly to reducing the effects of side effects, admission to hospital, falls, and improves self-management.

#### 4.9. PATIENT ACTIVITY DATA

##### PRIMARY CARE HOME – POLYPHARMACY PILOT PATIENT ACTIVITY DATA

- Data on hospital admissions, GP practice appointments, GP visits, emergency appointments and falls was obtained from a patient note audit. This audit looked at the 12 months prior to the pilot and the six months since the pilot. Whilst two different timeframes were used, and further monitoring over the next 6 months is required, the data does appear to indicate a notable change in the number of GP appointments patients attended.
- Whilst it difficult to attribute this solely to the medication review and changes that may have been made it does warrant further analysis 12 months post pilot to understand this change if it continues.

##### GP/practice appointments:

GP PRACTICE	12 MONTH PRE-PILOT	6 MONTHS POST-PILOT
Barton Hills	259	89
Bell House	230	104
Gardenia	164	46
Woodlands	239	72

Individual GP practice data is provided below

**BARTON HILLS**

PATIENT ID	HOSPITAL ADMISSIONS		GP/PRACTICE APPOINTMENTS		GP VISITS		EMERGENCY APPOINTMENTS/OOH		FALLS	
	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review
BAR01	0	0	17	5	0	0	0	0	0	0
BAR02	1	0	11	9	0	0	1	1	0	1
BAR03	0	2	3	2	0	2	3	7	1	3
BAR04	2	0	15	3	0	0	1	0	0	0
BAR05	1	0	22	3	1	0	8	0	0	0
BAR06	1	1	16	5	0	0	1	1	0	0
BAR07										
BAR08	0	0	22	12	0	0	3	0	0	0
BAR09	1	0	15	0	0	0	1	0	0	0
BAR10	0	0	19	4	0	0	3	0	0	0
BAR11	0	0	15	6	0	0	0	0	0	0
BAR12	0	0	27	8	0	0	0	0	0	0
BAR13	0	0	19	8	0	0	0	0	0	0
BAR14	0	0	6	5	0	0	0	0	0	0
BAR15	1	1	22	5	0	0	1	2	0	0
BAR16										
BAR17	1	0	18	12	0	0	3	0	0	0
BAR18	0	0	12	2	0	0	0	0	0	0
<b>TOTALS</b>	<b>8</b>	<b>4</b>	<b>259</b>	<b>89</b>	<b>1</b>	<b>2</b>	<b>25</b>	<b>11</b>	<b>1</b>	<b>4</b>

**BELL HOUSE MEDICAL CENTRE**

PATIENT ID	HOSPITAL ADMISSIONS		GP/PRACTICE APPOINTMENTS		GP VISITS		EMERGENCY APPOINTMENTS/OOH		FALLS	
	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review
BE01	1	0	20	6	0	0	2	0	0	1
BE02	0	0	35	10	0	1	1	2	0	0
BE03	1	0	12	2	0	0	1	0	0	0
BE04	1	0	18	10	2	2	1	2	0	2
BE05	1	0	35	4	5	0	5	0	2	0
BE06	3	1	9	14	0	0	3	2	0	0
BE07	2	0	24	17	1	0	2	1	0	0
BE08	2	1	16	2	0	0	4	1	0	0
BE09	1	0	17	15	0	0	1	0	0	0
BE10	0	0	34	15	2	1	1	0	0	0
BE11	2	1	10	9	5	2	3	2	0	0
<b>TOTALS</b>	<b>14</b>	<b>3</b>	<b>230</b>	<b>104</b>	<b>15</b>	<b>6</b>	<b>24</b>	<b>10</b>	<b>2</b>	<b>3</b>

**GARDENIA**

PATIENT ID	HOSPITAL ADMISSIONS		GP/PRACTICE APPOINTMENTS		GP VISITS		EMERGENCY APPOINTMENTS/OOH		FALLS	
	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review
GA01										
GA02	0	0	0	0	6	1	4	0	4	0
GA03	1	1	1	1	2	1	1	1	0	0
GA04	1	1	0	0	5	5	1	3	0	0
GA05	1	2	7	0	4	6	2	3	1	1
GA06	0	0	10	4	0	2	0	1	0	0
GA07	0	1	0	0	1	2	1	4	0	1
GA08	1	0	11	3	0	0	1	0	0	0
GA09	1	0	16	6	0	1	1	0	0	0
GA10	4	1	10	2	1	1	6	1	0	0
GA11	0	0	7	0	0	0	0	0	0	0
GA12	1	0	15	2	0	0	1	0	0	0
GA13	2	0	2	0	0	1	3	0	0	0
GA14	0	0	3	0	0	1	0	0	0	0
GA15	1	0	15	5	0	0	2	1	0	0
GA16	3	0	11	1	3	2	4	0	2	0
GA17	0	0	9	3	0	0	0	0	0	0
GA18	0	0	14	6	0	0	1	0	0	0
GA19	0	0	12	3	0	0	0	0	0	0
GA20	2	0	21	10	0	0	2	0	0	0
<b>TOTALS</b>	<b>18</b>	<b>6</b>	<b>164</b>	<b>46</b>	<b>22</b>	<b>23</b>	<b>30</b>	<b>14</b>	<b>7</b>	<b>2</b>

**WOODLANDS AVENUE**

PATIENT ID	HOSPITAL ADMISSIONS		GP/PRACTICE APPOINTMENTS		GP VISITS		EMERGENCY APPOINTMENTS/OOH		FALLS	
	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review	12/12 prior	6/12 post review
WOO1	1	1	17	6	0	0	1	0	0	0
WOO2	1	0	40	10	0	0	2	2	0	0
WOO3	1	2	28	14	0	3	0	2	1	1
WOO4	0	0	11	9	1	2	0	0	0	0
WOO5	0	0	22	11	0	0	0	0	2	0
WOO6	0	0	4	1	0	1	0	0	1	0
WOO7	1	1	7	2	4	0	2	1	3	0
WOO8	1	1	3	2	6	1	2	1	0	0
WOO9	1	0	14	2	0	0	1	0	0	0
WOO10	0	0	3	1	3	1	1	0	0	0
WOO11	1	0	24	10	0	0	0	0	2	0
WOO12	0	0	5	1	0	0	0	0	0	0
WOO13	2	0	61	3	2	0	5	0	0	0
<b>TOTALS</b>	<b>9</b>	<b>5</b>	<b>239</b>	<b>72</b>	<b>16</b>	<b>8</b>	<b>14</b>	<b>6</b>	<b>9</b>	<b>1</b>

**4.10. MEDICATION OUTCOMES:**

The specific outcomes of the Medication Reviews as reported by the Clinical Pharmacist are captured below:

OUTCOME	PHARMACIST RATIONAL	EXPECTED BENEFITS
<b>71</b> Medications stopped	Patients had been taking their repeat medication for a long time, with no active review by their GP. Reasons for stopping medication were due to unnecessary medication for which there was no rationale for prescribing and/or patient experiencing side effects	<ul style="list-style-type: none"> <li>• Reduces drug burden for patients with their medication regime – they are only taking what they need to take.</li> <li>• Simplified regime – improves compliance/adherence as they are more likely to take medication as prescribed.</li> <li>• Patients less likely to stop their medication or take it incorrectly.</li> <li>• Reduction in risk of hospital admission.</li> <li>• Reduction in risk of falls.</li> </ul>
<b>All</b> patients that were reviewed were taking at least <b>1 high risk medication</b>	Risk/benefits of high risk medications assessed at review High risk medications continued were always essential to the patient and benefits outweighed risk Patients were educated on how to take their medication and given information on who and when to report any issues	<ul style="list-style-type: none"> <li>• Patient specific information given which increases self-management – recognising side effects and reporting</li> <li>• Patient knowledge increased</li> <li>• Monitoring information given for bloods and other tests</li> <li>• Patients empowerment increased which encourages confidence with medication</li> </ul>
<b>20</b> high risk drugs were stopped	50% of hospital admissions due to medication are caused by high risk drugs Use of high risk drugs should be monitored and use minimized	<ul style="list-style-type: none"> <li>• Risk of falls minimized</li> <li>• Risk of admission minimised</li> <li>• Side effects reduced</li> <li>• Cost savings</li> </ul>
<b>0</b> patients were stock piling regular medication	Patients were asked to bring all their medication to the review and also asked re. obtaining repeat prescriptions At home visits medication stock was observed	<ul style="list-style-type: none"> <li>• Reduced costs /wastage</li> <li>• Improved understanding of medication use</li> </ul>
<b>2</b> patients were accumulating PRN medication	Patients did not always need these medications on their repeat prescriptions but it was received Patient advised how to obtain PRN medication	<ul style="list-style-type: none"> <li>• Cost savings</li> <li>• Wastage savings</li> <li>• Increased communication between</li> </ul>

	GP advised re. repeat ordering	<p>GP/patient/pharmacist</p> <ul style="list-style-type: none"> <li>• Improved patient self-management</li> </ul>
<b>2</b> patients had aspirin switched to Clopidogrel	Review identified an alternative medication for patients	<ul style="list-style-type: none"> <li>• Contribution to prevention of stroke risk</li> <li>• Reduced risk of hospital admission</li> <li>• Reduced risk of side effects</li> </ul>
<b>2</b> medication formulations changed	How patients take their medications and any problems assessed	<ul style="list-style-type: none"> <li>• Improve adherence</li> <li>• Improved patient experience</li> </ul>
<b>2</b> referrals to other clinicians	Both referrals were for Asthma clinic.	<ul style="list-style-type: none"> <li>• Improved monitoring of LTC</li> <li>• Contribution to holistic care of patients</li> </ul>
<b>20</b> hospital discharges across the cohort in the previous 12 months <b>0</b> medication discharge issues identified	Medication issues have been identified as a problem when patients transfer from one provider of their care to another Review of the discharges in the previous 12/12 was done by the pharmacist	<ul style="list-style-type: none"> <li>• Discharge problems identified early</li> <li>• Patient Medication regimes understood</li> </ul>
<b>0</b> prescribing errors identified		<ul style="list-style-type: none"> <li>• Monitoring of medication</li> <li>• Reduction in risk of side effects, hospital admissions</li> </ul>
<b>1</b> dispensing error identified	Dispensing date not on patients medication box label – legal requirement Pharmacy contacted and issue resolved	<ul style="list-style-type: none"> <li>• Increased integrated working</li> <li>• Risk patients confusion reduced</li> </ul>

Following each medication review the Clinical Pharmacist recorded all the outcomes on a pilot tracker.

From this information CCS Accountant for the pilot costed the medications which were stopped – these savings are shown below.

GP Practice	Annual Cost of Medications Stopped
Barton Hills	£787.38
Bell house	£502.98
Gardenia	£1291.13
Woodlands Avenue	£1023.24
<b>Total for Cluster</b>	<b>£3604.73</b>
<b>Cost saving per patient</b>	<b>£58.14</b>

#### 4.11. STAFF FEEDBACK

All staff involved in the pilot was asked to complete a feedback form - 5 were returned 2 from individuals and 3 on behalf of practices

##### **Question 1 – What were the project highlights and which activities and processes worked well?**

- Patients felt more secure having an extra medication review by an independent pharmacist
- Able to highlight some long term medications that were not required
- Working with CCS/Pharmacists/GP practices – good team working
- Good engagement with practices and patients
- Good going through how the process would work and how we would measure outcomes
- Pharmacy Technician involvement in original discussions useful as have ‘first hand’ experience of home visits and type of issues that are likely to be encountered
- Risk tool useful
- SystemOne
- Record Sharing
- Time allocated
- Surgeries very accommodating with queries that arose with follow up
- Preliminary Multidisciplinary project meetings and discussions worked well
- Engagement with project lead was very helpful and pro-active
- Nothing reported back has given any information we were not already aware of and dealing with

**Question 2 – Lessons Learnt: which activities and processes could be improved?**

- Pharmacist to take responsibility to send out letters regarding changes instead of taking staff/practice manager time
- Having pharmacist for whole of pilot
- Learning/Using others experience on measuring outcomes or what should be recorded during/after consultation
- Bloods being taken prior to medication review
- ? was checking inhaler technique included in the medication review
- What benefit was there to having review in the surgery? no insight into how medications are managed at home
- Cohort of patients not appropriate
- ? exclude patients with diagnosis of Dementia for face to face as difficult to follow up
- Question 7 on adherence survey to be revised
- List of medications on repeat not always current
- Repeat with other cohorts – housebound, frequent flyers
- Evaluation paperwork not specific as some patients could not remember the initial consultation
- Pharmacist to arrange own blood tests – not refer back to GP

**Question 3 – Recommendations: If this pathway was to be rolled out to other GP Clusters**

- Incorporate Health check into medication review
- Pharmacist to attend Monthly MDT reviews
- Broaden target group – reduce age
- Home visits more beneficial as able to identify stock piling and non-compliance
- Extend list of high risk medications on risk tool
- Repeat medications needs to be current
- Identify patients who are housebound and/or are dependent on carers to administer medication

**Question 4 – Any other comments/suggestions/feedback**

- Depends on the outcomes
- It worked smoothly
- Outcomes and benefits not known
- Would not recommend to other GP clusters at this stage
- Not aware of how many patients were seen and the outcomes of the visits
- Risk tool and Adherence tool both showed unexpected results reason

## **5. POSITIVES**

There was a very obvious willingness to undertake the pilot and to look at ways of improving outcomes for patients. The pilot group were very patient focused.

There was recognition that Luton is already further forward in many areas of integration, re-shaping of services and services development. During the pilot there was increased sharing of knowledge and learning around each provider's role and of the challenges faced in Primary Care.

Communication greatly improved.

Patients who took part were positive about having the medication review and were happy for this to be undertaken by a Clinical Pharmacist.

Everyone involved in the pilot contributed from start to finish, and were able to provide feedback regularly which made resolving issues easier as the pilot progressed.

## **6. CHALLENGES**

It was reported that there should have been a clearer explanation and confirmation of the understanding of NAPC from the outset. More information was needed regarding the pilot and the NAPC criteria; this would have influenced the choice of pilot area. The pilot chosen was very ambitious and clinically focused and seen as a way of solving a bigger problem. At times there was a danger of losing some of the Primary Care Home model characteristics

Roles and Responsibilities needed definition from the outset with a clearer estimate of the time needed for the pilot, it was felt there was a huge underestimate of the time, resources and work involved in the pilot for practices and their staff.

IT issues were resolved but it was evident that using different IT systems added work and caused problems with sharing information

IG issues needed close monitoring and expert help was needed to ensure there were no breaches.

Collecting data – practices were often unable to provide data and this was collected by the project team. The time needed for this was not available from the GP practices.

## 7. CONCLUSION/RECOMMENDATIONS

The role of the pharmacist working across a cluster was tested during this pilot with a specific group of patients. The cohort identified to participate was considered not to be wholly appropriate for rollout – practices reported they felt that other groups of patients would be prioritized for a Clinical Pharmacist review. Practices were reminded this was a test of a pathway which could be used in other groups as identified by individual practices. The role of the Pharmacist working within a GP cluster did show that for patients having a structured Medication Review had benefits and there were medication cost savings in this group which might be replicated to larger more significant savings in other groups

Patient satisfaction with the Clinical Pharmacist Medication review was high – indicating this area of patient care and monitoring, which can be very time consuming can be delegated to a Pharmacist saving GP time and resource

How each practice might identify patients for Medication Review has been shown to vary and each practice could identify groups of patients who they considered would be more suitable. There was also recognition from the GP's and the Clinical Pharmacist that this role could be expanded to include undertaking Health Checks, monitoring of Long Term Conditions and being part of the MDT's. The Clinical Pharmacist identified during the pilot that he had learnt about other services available to patients and how to refer patients to these, the role would therefore be very holistic.

The Clinical Pharmacist recommended that 1 full time pharmacist could manage the medication reviews for the cluster.

Longer term outcomes are being measured. Data has been collected for the pilot cohort from the previous 12 months before review on number of hospital admissions, falls, contacts with GP practice staff appointments and visits, and OOH/emergency contacts this data has been collected again at 6 months post review and will need to be collected again at 12 month post review and analysed.

During the pilot practice staffs were not always aware of the project and there may have been an opportunity missed to involve other practice staff who could have skills, knowledge, or interest in this area, communicating internally in GP practices could be improved.

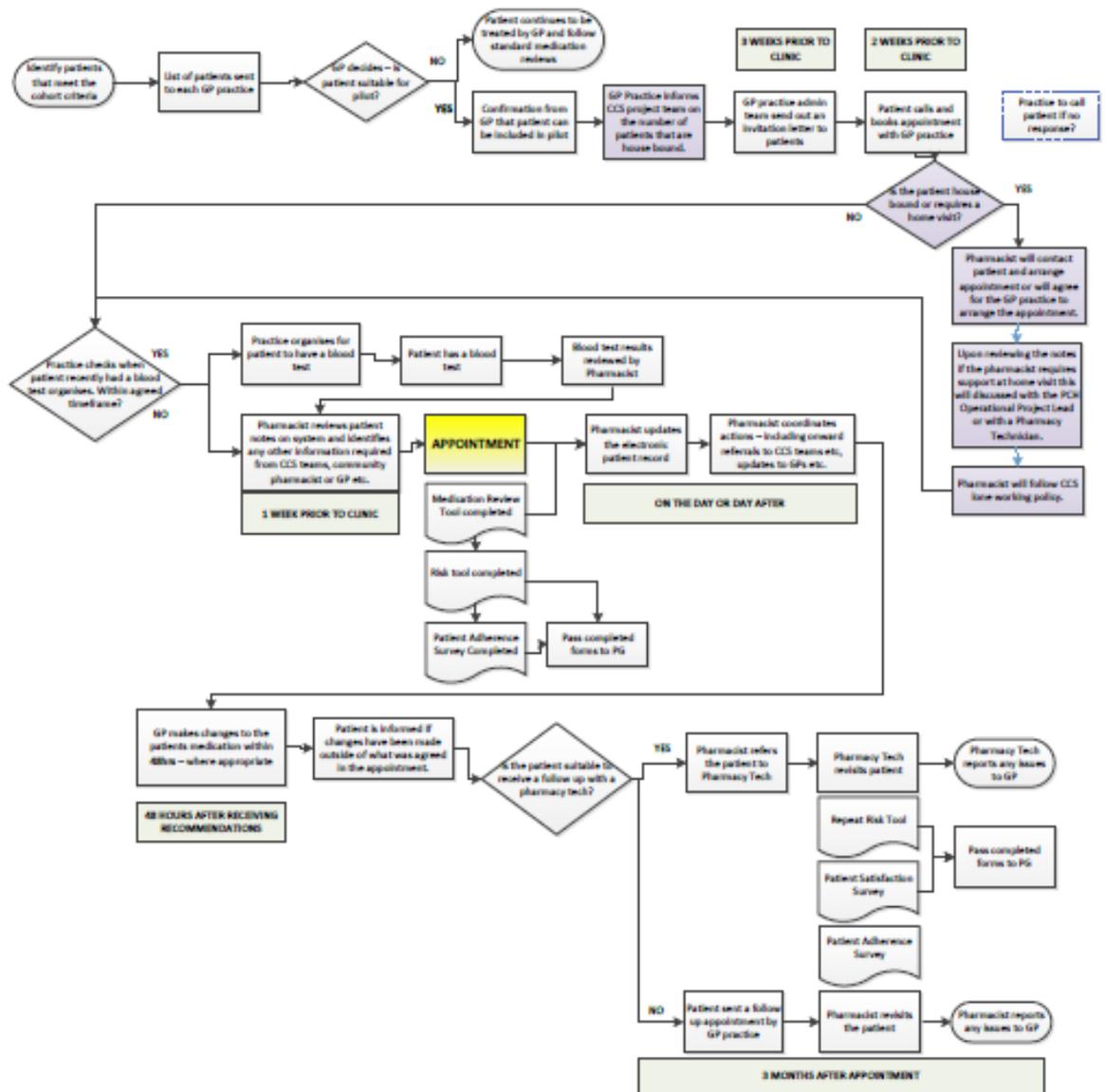
All practices reported that the time spent developing the pathway was useful and helpful – having joint pathways was felt to be the way forward.

The pilot paperwork was developed with the knowledge available at that time, during the pilot the project team and the clinical pharmacist identified where this could be changed and improved if the pathway was to be implemented across the GP clusters.

## 8. APPENDICES

### 8.1. APPENDIX A – MEDICATION REVIEW PROCESS V4.0

#### PRIMARY CARE HOME POLYPHARMACY – MEDICATION REVIEW PROCESS v4.0



Primary Care Home  
Polypharmacy Medica

## 8.2. APPENDIX B – PATIENT ADHERENCE SURVEY



### PATIENT ADHERENCE SURVEY V5.0

<b>Patient Name:</b>		<b>Date:</b>	/	/
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Please circle the most appropriate answer:

1.	Do you understand when to take your medicines?	Yes (score = 0)	No (score = 1)
2.	Do know what your medications are for?	Yes (score = 0)	No (score = 1)
3.	Do you ever forget to take your medication?	Yes (score = 1)	No (score = 0)
4.	Do you find it easy to take your medicines?	Yes (score = 0)	No (score = 1)
5.	When you feel better, do you sometimes stop taking your medication?	Yes (score = 1)	No (score = 0)
6.	Sometimes if you feel worse when you take the medication, do you stop taking it?	Yes (score = 1)	No (score = 0)
7.	I take my medication only when I am sick	Yes (score = 1)	No (score = 0)
8.	Are you always able to order all your medications at the same time?	Yes (score = 0)	No (score = 1)
9.	Are the medicines currently prescribed by your GP the only medication you take?	Yes (score = 0)	No (score = 1)
10.	Do you return excess, unwanted or leftover medicines to the pharmacy?	Yes (score = 0)	No (score = 1)
11.	Are you comfortable with your current medication?	Yes (score = 0)	No (score = 1)

#### NOTES FOR TEAM:

Please calculate the score upon completion – maximum score = 11.

### 8.3. APPENDIX C - RISK INDICATOR TOOL FOR MEDICINE RELATED PROBLEMS

#### PRIMARY CARE HOME POLYPHARMACY PROJECT – MEDICATION REVIEW

#### RISK INDICATOR TOOL FOR MEDICINES-RELATED PROBLEMS

This tool has been developed to help those people who might be at an increased risk of medicines-related problems.

<b>Patient identifier:</b>		<b>Date:</b>	/ /
<b>Date of Birth:</b>	/ /	<b>Assessed by:</b>	

Risk Factors (score 1 for each risk factor present)	Score	Notes
1. Aged over 75 years	/1	
2. Taking more 10 medications each day	/1	
3. Recent change in medicines (score 1 for each) <ul style="list-style-type: none"> <li>• Medicine added</li> <li>• Medicine stopped</li> <li>• Medicine dose change</li> </ul>	/3	
4. Higher medicines (score 1 for each medicine) <ul style="list-style-type: none"> <li>• Non-steroidal anti-inflammatory drugs<sup>3</sup> (see list below)</li> <li>• Aspirin</li> <li>• Diuretic<sup>4</sup> (see list below)</li> <li>• ACE Inhibitor or Angiotensin II receptor antagonists<sup>5</sup> (see list below)</li> <li>• Digoxin</li> <li>• Warfarin</li> <li>• Drugs for diabetes including insulin</li> <li>• Lithium</li> <li>• Methotrexate</li> </ul>	/9	
5. Difficulty in taking medicines as prescribed e.g. swallowing problems, forgetfulness, unable to open medicines containers etc.	/1	
6. Kidney or liver problems	/1	
7. Dependant on support to take medicines (e.g. carer, pill dispenser aid)	/1	

<sup>3</sup> NSAIDs: aceclofenac, acemetacin, azapropazone, celecoxib, dexibuprofen, dexketoprofen, diclofenac, etodolac, etoricoxib, fenbufen, fenoprofen, flurbiprofen, ibuprofen, indometacin, ketoprofen, mefenamic acid, meloxicam, nabumetone, naproxen, piroxicam, sulindac, tenoxicam, tiaprofenic acid

<sup>4</sup> Diuretics: bendroflumethiazide, chlortalidone, cyclopenthiiazide, indapamide, metolazone, xipamide, furosemide, bumetanide, torasemide, amiloride, triamterene, eplerenone, spironolacone, mannitol.

<sup>5</sup> ACE Inhibitor or angiotensin II receptor antagonists: captopril, cilazapril, enalapril, fosinopril, imidapril, lisinopril, moexipril, perindopril, quinapril, ramipril, trandolapril, candesartan, eprosartan, irbesartan, losartan, olmesartan, telmisartan, valsartan.

8. Has had medicines-related problems in the past e.g. drug allergy, fall, hospital admission related to medicines	/1	
<b>Total Score (max 18):</b>	<b>/18</b>	

Lower risk	0-6
Moderate risk	7-12
High risk	13-18

Tool adapted from NHS Midlands and East, Author: Richard Seal, Programme Consultant in Medicines Management, NHS West Midlands 2012

#### 8.4. APPENDIX D – PATIENT MEDICATION REVIEW



**MEDICATION REVIEW TOOL SUMMARY**  
**PRIMARY CARE HOME POLYPHARMACY REVIEW PILOT**  
(Cambridgeshire Community Services and Medics United 2016)

<b>PATIENT NAME:</b>			
<b>DATE:</b>	/ /	<b>NHS NUMBER:</b>	
<b>PATIENT ASSESSED BY (print name):</b>		<b>PATIENT ASSESSED BY (signature):</b>	

#### PART A

Using the Wirral Clinical Commissioning Group STOPP START Tool to Support Medication Review (Version 1, 2015) the following medication changes are recommended.

This tool has been adapted from the following resources:

**STOPP**-Screening Tool of Older Persons Prescriptions

**START** - Screening Tool to alert doctors to Right i.e. appropriate, indicated Treatments)

**MEDICATION RECOMMENDED TO BE STOPPED:**

<b>1. MEDICATION:</b>	
<b>REASON:</b>	
<b>2. MEDICATION:</b>	
<b>REASON:</b>	
<b>3. MEDICATION:</b>	
<b>REASON:</b>	
<b>4. MEDICATION:</b>	
<b>REASON:</b>	
<b>5. MEDICATION:</b>	
<b>REASON:</b>	

**MEDICATION RECOMMENDED TO BE STARTED:**

<b>1. MEDICATION:</b>	
<b>REASON:</b>	
<b>2. MEDICATION:</b>	
<b>REASON:</b>	
<b>3. MEDICATION:</b>	
<b>REASON:</b>	
<b>4. MEDICATION:</b>	
<b>REASON:</b>	
<b>5. MEDICATION:</b>	

**REASON:**

## **PART B**

Alongside the STOPP START Tool (Part A) the following supplementary questions and guidance was used to assess the patient.

<b>OTC AND COMPLIMENTARY MEDICINES</b>		
1.	Does patient take any OTC or complimentary medicines?	<b>YES / NO</b>
<b>INTERFACE ISSUES</b>		
2.	Has patient recently been discharged from hospital?	<b>YES / NO</b>
3.	If yes, is there a discharge summary available?	<b>YES / NO</b>
4.	Have medicines been reconciled in community?	<b>YES / NO</b>
5.	Outpatient clinic prescribing?	<b>YES / NO</b>
6.	Are red list drugs prescribed?	<b>YES / NO</b>
7.	Is there shared care documentation?	<b>YES / NO</b>

<b>DUPLICATION OF THERAPY/ SIMPLIFY REGIME</b>		
8.	Are there any drugs prescribed which are indicated for the same condition?	<b>YES / NO</b>
9.	Can the medication regimen be simplified?	<b>YES / NO</b>
<b>SIDE EFFECTS</b>		
10.	Ensure risk of side effects is minimal and consider drugs used to treat side effects which may need reviewing (consider prescribing cascade and vortex)	
<b>CONTRAINDICATIONS TO MEDICINES AND DRUG INTERACTION</b>		
11.	Ensure no contraindications of drugs with patient factors and drug factors	
12.	Ensure minimal drug –drug or drug disease interactions, may need to withdraw drug depending on risk/benefit	
<b>MEDICATION PRESCRIBING IS EVIDENCE BASED AND ACCORDING TO GUIDELINES</b>		
13.	Ensure prescribing is within national and local guidance	

<b>RELEVANT MONITORING AND DOCUMENTATION</b>		
14.	Ensure monitoring has been done or been arranged for certain medication or disease states	
<b>RISKS</b>		
15.	Consider social situation, cognitive impairment, falls risk due to certain medication, recent hospital admissions	

**ACTIONS FOLLOWING THE REVIEW**

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**RECOMMENDED GP ACTIONS:**

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**CLINICAL PHARMACIST ACTIONS:**

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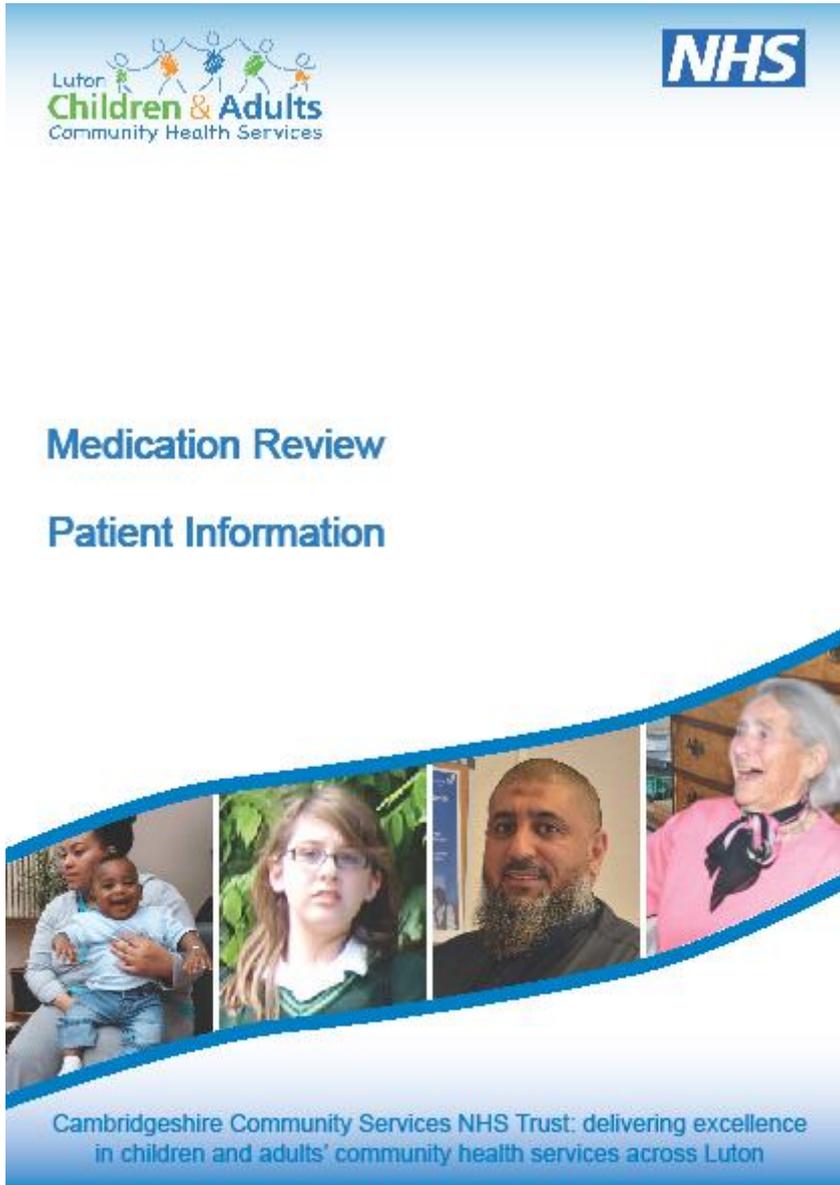
<b>Are there any supplementary pages to this form?</b>		<b>YES / NO</b>
<b>Have they been attached to the patient's record</b>		<b>YES / NO</b>
<b>EVIDENCE OF PRESCRIBING ERRORS:</b>	<b>YES / NO</b>	IF YES, WHERE DID THIS ERROR OCCUR: <b>PRIMARY CARE / SECONDARY CARE</b>
<b>EVIDENCE OF DISPENSING ERRORS:</b>	<b>YES / NO</b>	IF YES, WHERE DID THIS ERROR OCCUR: <b>PRIMARY CARE/ SECONDARY CARE</b>
<b>ANY OTHER ISSUES IDENTIFIED:</b>		

8.5. APPENDIX E – PATIENT SATISFACTION SURVEY

PATIENT SATISFACTION SURVEY POLYPHARMACY V1.3

		1 Poor	2 Fair	3 Satisfactory	4 Good	5 Excellent
1.	<b>Fully understanding your concerns...</b> (communicating that he/she had accurately understood your concerns, not overlooking or dismissing anything)					
2.	<b>Explaining things clearly...</b> (Fully answering your questions, giving you adequate information, not being vague).					
3.	<b>Helping you to take control...</b> (Exploring with you what you can do to improve your health yourself, encouraging rather than 'lecturing' you).					
4.	<b>Making a plan of action with you...</b> (Discussing the options, involving you in decisions as much as you want to be involved, not ignoring your views).					
5.	<b>Overall, how would you rate your appointment with the clinical pharmacist?</b>					
6.	<b>The appointment helped me to understand the intended use of my medicines</b>					
7.	<b>The appointment helped me to understand how to take my medicines safely and correctly.</b>					

## 8.6. APPENDIX F – PATIENT INFORMATION LEAFLET



0411 - Medication  
Review - Patient Info

## 8.7. APPENDIX G – STANDARD OPERATING PROCEDURE

### STANDARD OPERATING PROCEDURE

Medication Review – Clinical Pharmacist	
Document no:	TBC
Version:	V7.0
Document owner:	Penny Gazeley/Amy Edwards
Originating service:	Luton Adult Community Health Services
Purpose of document:	This SOP outlines the process to be followed for arranging, preparing, undertaking and recording outcomes of medication reviews undertaken by a Clinical Pharmacist for the Primary Care Home Polypharmacy Project. This is a joint project with Medics United GP Cluster in Luton.
Scope:	Clinical Pharmacist and GP practice staff.
Standards & legislation:	NICE guidelines regarding medicines optimisation and reviews. <ul style="list-style-type: none"> <li>Medicines adherence: involving patients in decisions about prescribed medicines and supporting adherence (CG76)</li> </ul>
Approved by:	TBC
Date approved:	Review date: 3 years after approval
Key related documents:	<ul style="list-style-type: none"> <li>DN165: Medication removed from a patient's home and returned to pharmacy.</li> <li>DN039: Lone Working in the Community SOP</li> <li>DN005: Records Management Policy</li> <li>DN106 :Information Governance Policy</li> <li>DN069: Safeguarding Vulnerable Adults</li> </ul>
Equality & Diversity Impact (EDIA): (Attached)	<ul style="list-style-type: none"> <li>An EDIA has been completed and is attached. No negative impacts have been identified.</li> </ul>
Financial implications:	N/A
Key word search:	Polypharmacy, Medication Review,

## VERSION CONTROL SUMMARY

Version	Page No.	Description of change	Date approved
1.0		First issue	
2.0		Further amendments made including details regarding process before the appointment.	
3.0		Third revised draft version	
4.0		Changed document template to Trust standard	
5.0		Further information added to the outcomes section and during the appointment process.	
6.0		Further key related documents added Addition to GP/practice responsibilities	
7.0		Changed attached document	

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## 1. INTRODUCTION

As part of the national NAPC Primary Care Home model CCS together with Medics United GP Cluster have been working on a project to improve the care for patients with polypharmacy by introducing a comprehensive medication review service. This is a 3 month pilot and as detailed in this Standard Operating Procedure (SOP) will involve the joint working of both organisations.

## 2. OBJECTIVES & AIMS

The project has been designed and will now test and evaluate a service/pathway to support patients who are on multiple repeat medications to treat chronic illnesses. Research has demonstrated that patients on multiple medications are more likely to suffer drug side effects which can consequently lead to hospital admission.

This project aims to improve patient safety and experience, provide high quality pharmaceutical care, and increase awareness amongst prescribers as to the potential harm from polypharmacy prescribing and report on the financial efficiencies which had been delivered as a consequence of this work.

This SOP details the process for the medication review which will be carried out on patients who meet the criteria detailed below:

- >75 years old
- 10 or more medications
- Listed on 5 or more morbidity registers

Excludes patients in care homes and palliative care patients.

## 3. PROCESS

### Attachment 1 – Primary Care Home Medication Review Process v4.0



Primary Care Home  
Polypharmacy Medica

### 3.1. PRIOR TO THE APPOINTMENT

#### Booking Appointments

- Invitation letter with information leaflet sent out to patients by GP practices.
- Patient to contact surgery to make an appointment - appointments allocated to slots available on each practice schedule. Practice schedule supplied by CCS.
- All appointments will be booked as 45 minute slots.
- If no response from patient after 10 days – practice to be asked to call patients and ask for a response yes accepting invite/no does not want to accept invite and record the outcome for audit

## **Bloods**

Existing blood results will be used if they meet the practice's guidelines. NB: No standard guideline is available for all practices.

If a patient requires a blood test the Pharmacist will organise with the practice for this to be scheduled.

## **Reviewing patient records**

- The Pharmacist will access patient records **7 days prior to the clinic**. SystemOne records will be accessed through the Toughbook or at the GP practice. All practices must ensure that open sharing has been initiated for patients that have booked an appointment.
- Patient records that are on Vision will be accessed at Bell House GP Practice only. Clinics in this practice will enable time for the Pharmacist to update records during the visit.

### **3.2 DURING THE APPOINTMENT**

1. A patient adherence survey will be completed in the appointment and in the follow up appointment.
2. A standardised medication review tool will be used to assess the current medication regime and the patient's wellbeing.
3. A risk assessment tool will be used to assess the risk of the patient being admitted to hospital or developing an ADR.

## **Attachment 2 – Medication Review Appointment Process**



### **Medication Review Appointment Process**

4. Advise the patient that we would like to arrange a follow up appointment either via telephone or face to face to discuss how they are getting on. Further information about this will be sent to the patients

Medication no longer required:

- The Pharmacist will complete DN165: Medication removed from a patient's home and returned to pharmacy form
- Ask the patient if a photo can be taken (ensuring patient details are not visible).
- If medications are unable to be removed from the patient's home, the patient will be advised to take any unwanted medications to their local pharmacy for disposal.

### 3.3 AFTER THE APPOINTMENT

#### Outcomes

- The medication review tool will be completed, scanned and uploaded onto the system either on the same day or next working day.
- Outcomes from the review documented on data capture spread sheet.
- Discuss with GP any changes/information to be shared from review - this can be done face to face or via e-mail if GP not available. All discussions to be followed up by an e-mail summarising conversations
- Record medication review completed in patient electronic record using read codes:  
Vision – 8B31B00 System 1 - XaaCQ
- All medication review documentation/paperwork must be completed and recorded ideally on same day as appointments or at end of each pharmacist working week
- Any outstanding work not completed needs to be reported to project team.

### 3.3 FOLLOW UP APPOINTMENTS

- A reminder for follow up appointment will ticked on SystemOne and Vision by the Clinical Pharmacist to enable GP practices to search for these patients.
- Patients will be advised that they will be followed up within 3 months by either a Pharmacist or a Pharmacy Technician.

Please see attachment 1 for further information about the follow up appointment process.

### 4.0 INFORMATION GOVERNANCE

#### Consent to data sharing

Information about consent for data sharing has been included in the patient invitation letter. By booking an appointment patients are advised that they are consenting to sharing data with the pharmacist for the project.

#### Appointments and patient information

All information relating to the appointment will be stored electronically.  
Trust policy re. Patient Identifiable Data/Records will be adhered to – Clinical Pharmacist is aware of the policy and will use a red bag according to trust policy in exceptional circumstances

#### Handling of outcome data

To anonymise patient information, each patient will be given a 'Patient ID code', examples below. Patient ID codes will be allocated by the Clinical Pharmacist based on the order the patient was seen.

Barton Hills	BAR01, BAR02, BAR03 etc.
Bell House	BE01, BE02, BE03 etc.

Gardenia	GA01, GA02, GA03 etc.
Woodlands	WO01, WO02, WO03 etc.

**A reference table spread sheet (separate document from the data capture spread sheet) will list the patient ID code against their NHS number to enable the project team to follow up with the patient at a later date.**

**Please see attachment 2 – Medication Review Appointment Process to view the actual templates to be used.**

## **5.0 RISKS AND SAFEGUARDING**

Any clinical or non-clinical risks identified through the process will be recorded onto Datix in line with the Trust policy.

Any safeguarding issues identified will be actioned following Trust policy guidelines/policies

## **6.0 DUTIES, ROLES & RESPONSIBILITIES**

### Clinical Pharmacist

- To ensure that patient's records have been reviewed, any preparatory tasks completed (including blood test etc.) prior to each patient's medication review.
- To work in partnership with GP practices to ensure clinics are fully utilised.
- To conduct medication reviews using the agreed tools and templates outlined in this SOP.
- To ensure outcomes of any appointments are accurately recorded on the patient's electronic record within the timescales specified in this SOP and communicated to their GP.
- To ensure that patient information is managed in accordance with CCS policy and as detailed in this SOP.
- To report any clinical or non-clinical risks regarding patients to the patient's GP and PCH Operational Project Lead. Safeguarding concerns must be reported immediately following the Trust's policy.

### GP Practices

- To send and schedule appointments to all patients that meets the criteria and has been approved as suitable to participate in this pilot by their GP.
- To contact, where suitable, identified patients encouraging them to participate in the medication reviews, ensuring that the clinics are fully utilised.
- To liaise with the CCS Project Team regarding any changes to clinic room availability.
- To work with clinical pharmacist on arranging blood tests and where required facilitate time with GPs to discuss patients or for the Clinical Pharmacist to use the GP clinical system.
- To scan all review medication documentation into the patients electronic records

### CCS Project Team

- To ensure data captured from the medication reviews is anonymised and all patient identifiable information removed before being shared.

- To communicate any changes to the appointment schedule promptly to GP practices to ensure patients are kept informed.

## **7.0 AUDIT**

The following information will be obtained from the medication review and will be used to support the analysis of the pilot.

- Patient adherence
- Risk of admission or of developing a ADR
- Issues relating to prescribing, dispensing errors, transfer of patients between healthcare providers (i.e. hospital back into the community).
- Recommended changes to medications – no. of items stopped or changed.

## **8.0 COMPLETED EDIA FORM**



**Polypharmacy  
Review EDIA v1.0.doc**

## 8.8. APPENDIX H – STAFF QUESTIONNAIRE

### Primary Care Home Polypharmacy Pilot Questionnaire

Question 1. Project Highlights: Which activities and processes worked well?

Question 2. Lessons Learned: Which activities and processes could have been improved?

Question 3. Recommendations: If this pathway was to be rolled out to all GP Clusters

Question 4. Any other comments, suggestions and feedback

## 8.9. APPENDIX I – PATIENT STORY

I reviewed a Woodlands patient on a home visit. She had a medical history of arrhythmias, heart disease, stroke and osteoarthritis. She lived alone and was housebound, but had carers coming in to support her daily activities as well as support from family. However, she independently managed her medication. She has not had any hospital admissions in the last 3 years. She has been on her medication for over 10 years. There are no documented falls, but she does have a fracture risk due to osteoarthritis.

This patient had a good adherence to her medication but she was not sure why she was taking her medication and what they were for. She was on 13 repeat medications was, and 5 of these were high risk medications (Furosemide, Gabapentin, Warfarin, Digoxin, Ramipril). She was contemplating on stopping her digoxin and warfarin medication because there were so many medications, not realising the impact this may have because she did not know what they were for. Stopping both of these medications could have significantly increased her risk of stroke due to stopping warfarin and symptomatic arrhythmias due to stopping digoxin; both conditions would have led to hospital admissions and distress for the patient.

I explained the rationale for each of her medications and the importance of taking them regularly and on time to prevent her from becoming ill, even if she feels well. I explained that she should always speak to a health professional regarding concerns about her medication.

She had a brown, preventer inhaler (Clenil) and she did not have any asthma symptoms for over a year so I advised that I will inform the GP to arrange an asthma review with her asthma nurse, and they could step down therapy and stop the brown inhaler if all her respiratory tests are fine. She had lots of blue, rescue inhalers (Salbutamol) which were kept being sent by the pharmacy even though she was only using these on a when required basis. Inhalers are expensive and this was unnecessary waste and expense. The patient also had GTN spray being over supplied, although this is only used when required. I advised the patient that I will speak to her pharmacy and GP practice to inform them that she will inform them both when she needs to order more blue inhalers or GTN spray; I advised the pharmacy and GP practice that the patient will do this and not to automatically send the blue inhalers or GTN spray, when the next batch of medication is due.

I looked further into her medical history and her blood results and investigations and discovered that there was no rationale in continuing her omeprazole capsules (to protect the lining of the stomach) since she did not have a history of stomach ulcers or bleeds, no indigestion symptoms and none of her medications could cause harm to her stomach. Patient was happy to trial without this medication and this was stopped by the GP.

The investigations also showed she was not anaemic anymore and did not have symptoms of anaemia. I therefore recommend to that there was no need to continue the Ferrous Fumerate (iron tablets) anymore – so these were stopped by the GP.

Patient found that her calcium and vitamin D3 (Adcal d3) caplets were too big for her to swallow and was having difficulty swallowing these. This is something she may have stopped taking eventually on

her own accord causing increased risk of fractures if she had a fall. I was keen to keep her on this so I recommended that she switches to a chewable form. Consequently, this was switched to the chewable form by the GP.

The patient was on simvastatin for which Liver Function Tests and Cholesterol Tests should be monitored at least annually. These were overdue so GP was informed to do these.

Patient's warfarin was being managed by the anticoagulant clinic and she had a yellow anticoagulant book with up to date INR readings and schedule for the next doses and next appointment. She was well aware of the side effects and diet restrictions as well.

This case has demonstrated that a pharmacist review has reduced wastage (by stopping unnecessary medication and controlling supply of medication). It has also shown to improve adherence by reducing her drug burden by stopping two medications, and potentially one of her inhalers after the asthma review as well as patient education about her current medication. This should allow her to continue taking her medication without thinking to stop them because she has to take less. More importantly, she is now determined to continue taking her all her medication including the vital, high risk medication which may contribute to a hospital admission or fall if she stopped taking them, or took them incorrectly. The patient can take her calcium and vitamin D3 tablets because they are now chewable, consequently the risk of fracture and consequent hospital admission is reduced because the patient is adherent to Adcal D3 tablets. Most of all, the patient was happy and satisfied with the above recommendations and the outcome.