The following tables summarise the main findings from this project.

Table 1 Project Demographics

No of care homes	20
Nursing:Residential:Mixed	2:3:15
No of general practices	16
No of residents reviewed	422
Age (y), mean (range)	85.5 (56-104)
Women, no (%)	328 (77.7%)

Table 2 Summary of medicines

No of medicines stopped	704
No of residents with medicine stopped	298 (70.6%)
No of medicines stopped per resident, mean (range, SD)	1.7 (0-9, SD 1.7)
Prior to reviews	
Total no of medicines	3602
No of medicines per resident, mean (range, SD)	8.6 (0-24, SD 3.7)
After reviews	
Total no of medicines	2975
No of medicines per resident, mean (range, SD)	7.1 (0-21, SD 3.5)

Table 3 Medicines administration round times (minutes)

Care Home	Morning Drug Round (Before)	Morning Drug Round (After)	Lunch Drug Round (Before)	Lunch Drug Round (After)	Evening Drug Round (Before)	Evening Drug Round (After)	Time Saved per day	Time Saved per Week
1	120	100	60	60	120	90	**50**	**350**
2	150	80	100	60	120	90	**140**	**980**
3	45	45	45	30	45	45	**15**	**105**
4	45	35	45	35	45	35	**30**	**210**
5	120	90	100	80	100	60	**90**	**630**
6	90	75	75	50	90	60	**70**	**490**
7	60	45	45	45	60	45	**30**	**210**
8	90	75	60	50	90	75	**40**	**280**
9	60	45	45	45	90	60	**45**	**315**
Total	**780**	**590**	**575**	**455**	**760**	**560**	**510**	**3570**
Ave	**86.7**	**65.6**	**63.9**	**50.6**	**84.4**	**62.2**	**56.7 (~1 hour)**	**396.7 (6.6 hours)**

Figure 1 Patient Involvement Framework

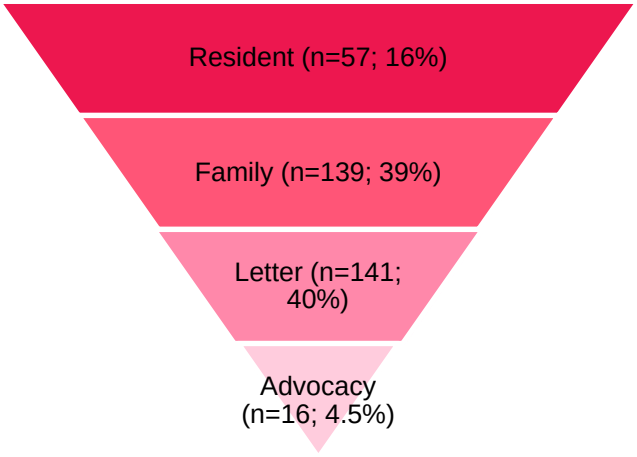


Figure 2 Interventions made by the MDT

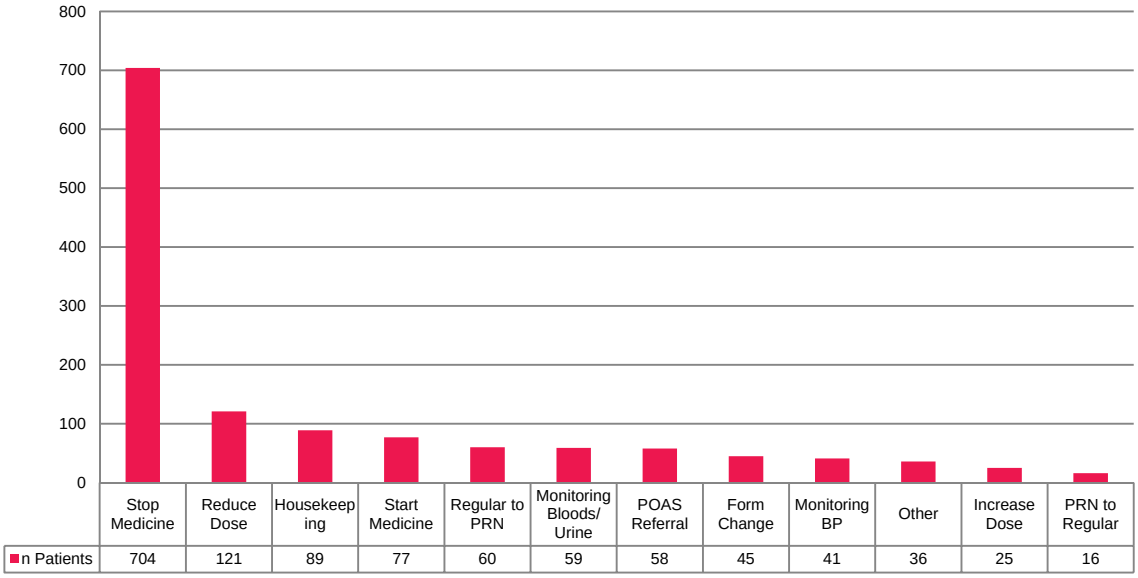


Figure 3 Reasons why medicines were stopped

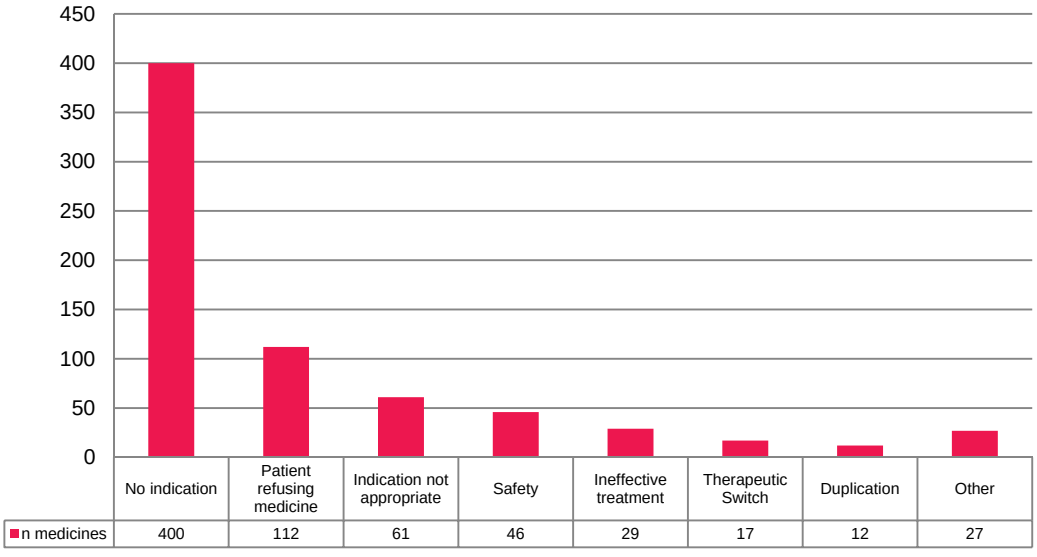
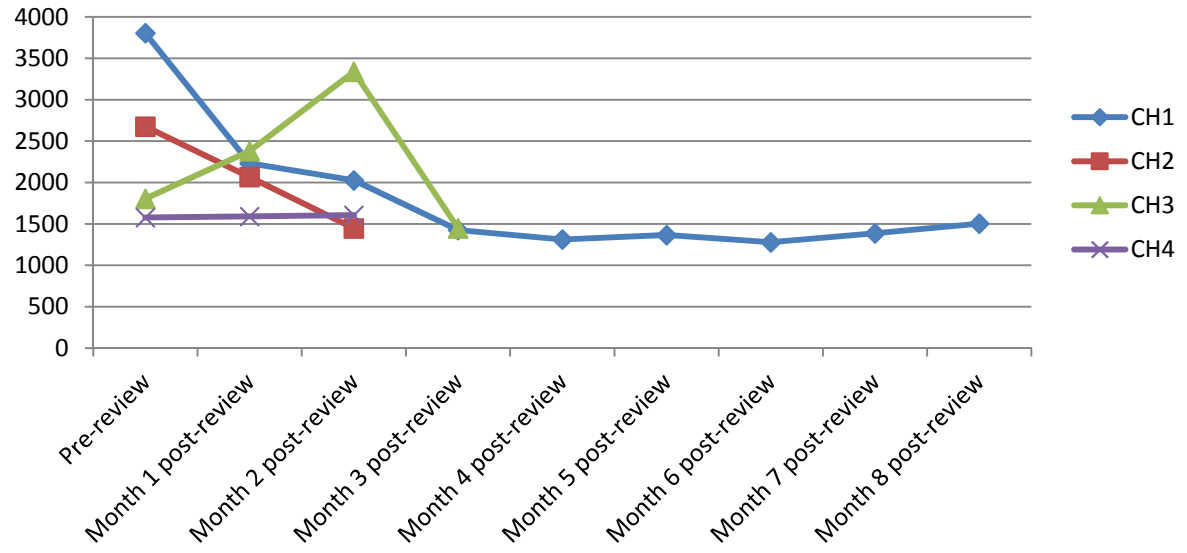


Figure 4 Quantity (single doses) returned for destruction for 4 care homes



Evaluation of the Key Stakeholder Experience

This appendix has been added to share detailed qualitative data and information that have been previously summarised earlier in the report.

Methodology

The table below provides the details of the key stakeholders involved in the patient experience measurement, the numbers of those who participated and the methods that were adopted to collect the data:

Key Stakeholder	Method	Number
Resident	Observation	1
Family Members	Focus Group	10
Family Members	Face-to-face interview (post Shine)	5
Family Members	Telephone interview	1
Care Home Manager	Face-to-face interview (pre Shine)	11
Care Home Manager	Electronic questionnaire (post Shine)	2
Qualified Nursing Staff	Postal questionnaire (pre Shine)	13
Support Staff	Postal questionnaire	10

Key Findings

Main Themes: Resident

The resident had concerns relating to the number of tablets that she was taking.

1. ***"All these tablets I am taking, they are far too much".***

The resident was keen to know if the pharmacist thought she was taking too many tablets.

1. ***"Am I getting too many tablets?"***

The resident had confidence and trust in the pharmacist's opinions and decisions.

1. ***"I will do whatever you say, if you think I need more or less and I will take what you say I need. You tell the nurse here what I need to take".***

Main Themes: Families

A lack of awareness and involvement in past of medication in general and medication reviews (pre Shine).

1. ***"Before she (mum) moved into the care home, I only found out about her medication more by accident, when for example to chemist would phone us to tell us they would be delivering at a certain time and slowly I found out she was a tablet Statin. Err……. she was on one tablet for her blood pressure and err…….there was a third one which I have forgotten. Nobody ever explained to me why the tablets were prescribed. In the sense of why one tablet rather than another".***
2. ***"We assumed that she (mum) was on the right medication and it had been reviewed but obviously not".***
3. ***"When we had the meeting with the pharmacist, what came to light was that she (mum) had not had a review for a long time. The amount of medication she was taken off after the meeting was incredible".***
4. ***"I knew exactly what she (mum) was on till she went into hospital……..However, once she went into hospital, then onto the Kielder Unit and then into the care home I had absolutely no idea what she was on. I would assume that she would be on…..still the same, maybe taken off some and she might be on different ones".***
5. ***"I would assume that her medication is being checked but I would not know for definite".***

Generally families understood the purpose of the review.

1. ***"I do think that cost might be an issue. However, there might be a reason when they might not need to take the medication anymore; maybe it is dangerous for them now".***
2. ***"There is no point people being on things unnecessarily. You don't need to be on them, why be on them".***
3. ***"It is a very positive process as well. The amount of money that must be wasted on medication that is not necessary as well, that would justify the project".***
4. ***"I hope that the project is successful as it makes so much sense".***

Feeling fully involved and better informed as a result in the Shine medication review process.

1. ***"It was enlightening when we came out (the meeting with the pharmacist). We felt really happy and reassured that she (mum) was in good hands".***

2. ***"He explained things in layman terms. The pharmacist couldn't tell us to take her (mum) off the medication but he told us the pros and the con's and it was our decision and at least we were able to make an informed decision from the information from the pharmacist".***
3. ***"I think we should be notified if something was going to be stopped. The pharmacist discussed about taking her off a Statin. Erm…. but at the minute I think she is happy and has really good quality of life, I don't think she should be taken off things without consulting the family with a good reason for her to be taken off them".***
4. ***"He went through it (medication) in detail and I found it very helpful. I was pleased to have the opportunity to talk to someone about it because I really knew very little about it. He was able to suggest things. One of the things that was suggested was the Statin was stopped because at her age and the reasons it was actually prescribed it was felt to be unnecessary and I agreed".***
5. ***It was explained to me the pros and the cons and it was only suggested that it could be stopped and what did I think about it? I was drawn into it and it was a very helpful conversation".***
6. ***"The Shine team spoke to me and asked me how I felt about the changes".***
7. ***"You feel that people are taking the time to consider my mother's health"***
8. ***"Because there are so many things you are not sure about with elderly people and their medication and health condition. Anything that gives you an opportunity to talk to someone directly and get feedback and get confirmation or alternative suggestions, that is great as far as I am concerned".***

Main Themes: Care Home Staff

The challenges posed by managing and administering the large volumes of medication in a care home setting.

1. ***"Time consuming ordering, checking, changing doses and prescriptions re: doctor's instructions".***
2. ***"Medication rounds can be stressful in the morning".***

The relationship that residents with reduced capacity can have with their medication and the challenges that this poses for care home staff.

1. ***"Compliance, it can sometimes be quite time consuming, encouraging residents to take medication often two or three attempts".***
2. ***"Residents would not possibly understand the implications etc. of side effects".***

The varying levels of involvement that the residents families can have in respect of their medication.

1. ***"Some families who are involved in their relatives care sometimes ask what the medication is for etc."***
2. ***"We have informal discussions with families beforehand and this may result in questions, again not all families have involvement with residents".***

Care home staff attempt to involve families in issues such as changes to medication.

1. ***"I'd make sure the family had a good understanding of what has taken place in the review, offering reassurance and information as needed".***
2. ***"Yes, we tell them if changes are made. Again if the family are not actively involved we don't involve them".***

The frequency of medication reviews pre Shine varied greatly across the homes involved in the project. The overall range was from 0 to 18 months, residents in 2 homes had not received a medication review that was prompted by the medical practice.

1. ***"Some of my residents have not received a medication review unless I have requested it".***

Medication reviews are requested by care home staff and the reasons for these requests include a change of health status or behaviour for the resident, non- compliance or a new resident coming into the care home.

1. ***"Frequent refusal of medication may result in the request for a review".***

Suggestions to improve their resident's experience of medication and medication reviews included regular medication reviews prompted by the medical practice, forgetting the cost implications of liquid medication when a resident requires it, protected medication rounds and prevent wastage of drugs that have not been removed from repeat prescriptions.

1. ***"Protected medication rounds with no interruptions".***
2. ***"Residents get medication in a form they can take comfortably".***
3. ***"To regularly review to see if each medication is needed".***

Being involved in the Shine project has been a positive experience for residents, care home staff and their families.

1. ***"As a manager I feel special to have been chosen for this project. I think it is beneficial and forward thinking to be involved in the research of medication for the elderly; this is often overlooked and not to the forefront either. I told anyone that would listen that we were part of the Shine project with pride".***
2. ***"For our residents families it made them more aware and involved of what was being prescribed and why".***
3. ***"Our drugs round had decreased by approximately 20%. It is less stressful for residents as they are not taking as much medication and are more compliant as they were part of the review process".***
4. ***"To describe the Shine project I would say it was the best thing ever that ever that came into a care home. It looks at the individual and encourages them to feel part of any decisions".***

Main Themes: GPs

The high numbers of patients, who lack capacity due to conditions such as dementia, have prevented the GP from having meaningful conversations with them about their medication. However, it was felt that generally older people are happy to take the medication that is prescribed to them irrespective of cognitive ability.

1. ***"They (residents) have pretty poor (awareness)……..it depends on their level of capacity".***
2. ***"They have the ability to spit it out or say I don't want it but they would not be able to make an informed decision".***
3. ***"I find a lot of older people……not sure if it is a cultural thing. You say this is what you should be taking and they say ok. 1 or 2 will say why or I don't like that. I think that it is something they have just done all their lives, they trust you".***

Pre-SHINE medication reviews could be triggered by a numbers of issues e.g. current health status or after a stay in hospital.

1. ***"Generally we had a system based on their problem list. If they were hypertensive, they would get reviewed 6 monthly…….Dementia patients would be checked once a year as part of their dementia review. Other people it would just be dependent on what their problems were".***

Pre-SHINE family involvement in medication reviews or medication in general was very limited.

1. ***"Some families will be quite switched on and know exactly what their family is on but I suspect the vast majority don't and don't have any input into the decisions whether the patient needs it or gets it and why they are getting it (medication)".***
2. ***Very occasionally you get a call from the family member but that was very occasionally".***

Medication reviews can take up a great deal of time, especially in care homes with a high number of beds and this can place a strain on a practice and does not facilitate family involvement.

1. ***"We didn't do it that way first time round as we reckoned we just didn't have the time or the back-up support".***

The Shine project supported the involvement of families in the medication review process.

1. ***"I think involving the family is a really good idea……it is a positive thing to try and involve them".***

Shine helped to improve the relationship between the GP's and the care homes.

1. ***"I thought the whole thing was really worthwhile and it helped improve relations with the care home".***
2. ***I am sure the nursing home found it useful as they maybe understood better why people were on certain things. We were taking their opinions really seriously as to whether the resident really needed this (medication)".***

The GPs benefited from the input of the pharmacist and other team members.

1. ***"It is just very helpful to have the pharmacists input and recognise interactions and things that maybe I don't".***
2. ***"We had the back up of [pharmacist] to help us out. If you haven't got someone like that your average general practice just can't do it. You just haven't got the resources. He was the one that actually back checked and made sure the changes were implemented and what had happened because of said changes……..having that extra resource to have the full on discussion with the patient and their family".***
3. ***"You can't just say that because you have a pharmacist in your practice that they can do this 'cause they can't. Unless they have worked with a stopp tool and understand how it works……. [pharmacist] has worked with [psychiatry consultant] anyway. If you were going use to practice pharmacists you would have to up skill them".***

Time is potentially a problem for Shine, as it was felt that the project did involve a lot of GP time.

1. ***"I missed 3 or 4 surgeries to do it and that is a lot of pressure of the rest of the guys, it cuts down the appointment availability".***
2. ***"GP time to back it up is potentially a problem but it is a very valuable thing".***

SHINE aims to find out if there is a good reason for patients taking the medication they are on.

"They are trying to rationalise prescribing in a really sensible way, does someone of 90 need a Statin ……well no".

Process map of service delivery and models of working with GPs and residents.

Figure 4 Models of service delivery

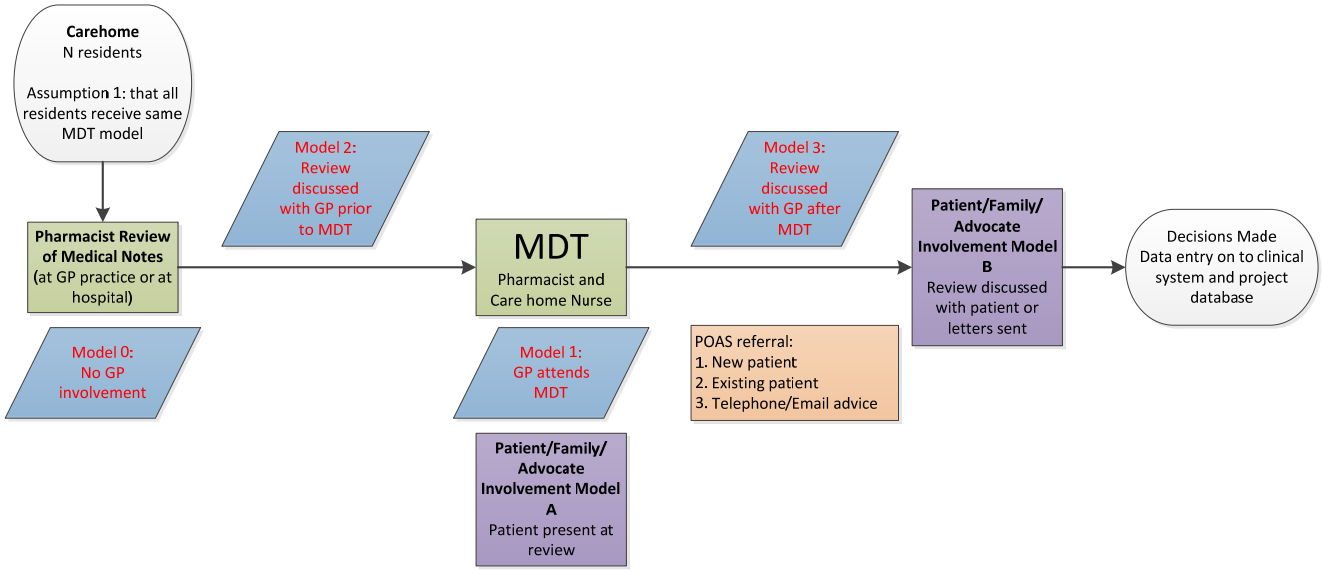


Table 5 Health economic evaluation

Model of service	0	1	2[1]	3	Totals
No of patients	115	160	21	126	422
Outputs					
Interventions	371	559	79	337	1346
Medicines stopped	198	307	51	148	704
Interventions/patient	3.2	3.5	3.8	2.7	3.2
Medicine stopped/ patient	1.7	1.9	2.4	1.2	1.7
Net Saving (medicines)	£23,462.45	£37,414.27	£4,277.91	£12,697.23	£77,851.86
Net saving/patient	£204.02	£233.84	£203.71	£100.77	£184.48
Cost of delivering service					
Pharmacist	£5,842.50	£7,867.50	£1,102.50	£6,600.00	£21,412.50
GP	£0.00	£5,930.17	£386.75	£2,302.08	£8,619.00
Care home Nurse	£325.83	£456.17	£59.50	£357.00	£1,198.50
POAS	£480.00	£480.00	£0.00	£480.00	£1,440.00
Total cost	£6,648.33	£14,733.83	£1,548.75	£9,739.08	£32,670.00
Cost per patient	£57.81	£92.09	£73.75	£77.29	£77.42
Summary					
For every £1 invested…	£3.53 saved	£2.54 saved	£2.76 saved	£1.30 saved	£2.38 saved

[1]Only 21 patients in one home